Evaluation Of Attitudes Toward Recreation Fees In The Pacific Northwest

University of Montana

Theron A. Miller, School of Forestry, Missoula, MT

James A. Burchfield, School of Forestry, Missoula, MT

William T. Borrie, School of Forestry, Missoula, MT

Kristin H. Anderson, School of Forestry, Missoula, MT

USDA Forest Service

Daniel W. McCollum, Rocky Mountain Research Station, Fort Collins, CO

Alan E. Watson, Rocky Mountain Research Station, Missoula, MT

J. Michael Bowker, Southern Research Station, Athens, GA

Brian R. Payne, Research and Development, Washington, DC

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Executive Summary

Congress granted authority to the Forest Service in 1996 to experiment with a series of user fees on National Forest lands through the creation of the Recreation Fee Demonstration Program (RFDP). In the Pacific Northwest Region (Region 6) fees have been applied at trailheads, visitor centers, campgrounds, and other recreation sites since 1997, yet systematic research that investigated public responses to these fees was not initiated until 1999. Through a Research Joint Venture Agreement with the Rocky Mountain Research station, the University of Montana and Forest Service researchers examined public attitudes toward recreation user fees through two major methods: a telephone survey of the resident population of the states of Oregon and Washington, and an on-site, intercept survey administered to resident and non-resident visitors to National Forest recreation sites throughout the Pacific Northwest Region. Results were very similar in both the telephone and on-site surveys, indicating that the attitudes of visitors to the National Forests closely reflect the attitudes of the residents of the Pacific Northwest regarding recreation fees.

Findings indicate that the public has a mixed reaction to recreation user fees. Some people, roughly 20% of respondents to both surveys, show little objection to the new fees that have been applied as part of the RFDP. Conversely, about this same proportion is firmly opposed to these new fees for the use of National Forests. The remaining 60% of the population finds fees to be appropriate under certain circumstances, and inappropriate under others. This majority group we have labeled as "fee equity" proponents, who feel that fees can be fair when applied toward those activities that have been traditionally associated with fees (camping at developed campgrounds, for example) or toward those activities which incur a certain cost on either infrastructure (boat ramps) or landscape quality (the impacts from off road vehicles or mountain bikes). Fee equity proponents, as well as those opposed to fees, desire a suite of activities on National Forest to be available free of charge, including common activities such as picnicking, swimming, stopping at scenic overlooks, or parking on National Forest lands.

The implementation of a fee system on National Forests responds to two major forces affecting outdoor recreation: first, the steady increase in visitation to National Forests over the past several decades; and second, the increased financial needs to maintain facilities and provide adequate services to visitors. The RFDP allows 80% of fee revenues to be reinvested within the administrative units where collected, and these monies have led to important repairs and improvements in recreation infrastructure and service. However, even though fee revenues are significant, they cannot replace other resources to manage recreation programs. Even with fee revenues in 1998 amounting to $5.4 million, 86% of the Region 6 recreation budget that year depended upon Congressional appropriations.

The telephone survey of the general population in Oregon and Washington identified that National Forests are a highly important component of the outdoor recreation supply in the region. Of the 69% of the population that identified themselves as outdoor recreationists, 80% of these (56.5% of the total population) indicated that they had recreated on a National Forest in the past year. This importance is tempered somewhat by the revelation that 85% of those that claimed to have recreated on National Forests were either unsure or very unsure if they had been within a National Forest while recreating. Outdoor recreationists were also queried about the their purposes for recreating, and analysis of responses revealed four clusters of recreational experience preferences. About 35% of outdoor recreationists seek challenge in a natural setting, 25% recreate for

personal growth or relaxation, 23% wish to connect with friends and family, and another 17% recreate with little reflection on any specific desired experience.

The on-site survey revealed similar motivations for the public to engage in outdoor recreation, although analyses of data revealed a slightly different clustering of desired recreational experiences. Of those individuals contacted at the recreation sites throughout the Pacific Northwest, 60% were seeking an experience that afforded an affirmation of their health and competence, and National Forests provide a context for them to achieve personal goals. The other 40% of respondents clustered around a recreation experience preference where they could appreciate nature with others.

National Forest visitors can also be categorized by activities that typify their participation in outdoor recreation. On-site survey respondents were grouped into six "activity clusters" based on the means by which they achieve desired experiences. These activity groups were labeled as follows: front-country passive, RV/OHV oriented, nature appreciation, water oriented, backcountry purist, and backcountry traditional. These activity groups showed significant differences in their attitudes toward fees, with the backcountry traditional and water-oriented groups most opposed to fees. Conversely, front-country traditional and nature appreciation groups found fees to be more acceptable than other groups. Analysis among the groupings based on experience preferences (both in the general population and the on-site visitors) showed no significant differences among groups in their attitudes toward fees.

The two surveys also examined the performance of the Forest Service in providing recreation services to visitors. In both cases, people find the Forest Service to be doing an adequate job of providing important services to visitors. In terms of signs, trails, maps, and other services provided, analyses showed that the performance of the Forest Service is rated very favorably.

The surveys also examined the type of fee system that people prefer if they are required to pay for recreation activities. In both the telephone and on-site surveys, people preferred a regionally applied system, where a single regional-level pass would cover a broad range of recreation activities. The preferred purchase method for this regional pass is an ability to buy the pass at the recreation site, followed in order of preference by opportunities to purchase via the Internet, an 800 telephone number, or at a Forest Service office. These findings suggest that convenient and highly distributed methods of purchase are preferred.

Responses to the telephone survey were also analyzed regarding the amount that people would be willing to pay for various options of a recreation "pass" that would cover any required fees. A price in the range of $50-60 for a regional annual pass would be in line with survey responses; a price less than $29 would conform to responses for a regional, weekly pass, and less than $8 per day for a one-day pass.

Finally, survey respondents were asked about their preferences for the allocation of fee revenues, that is, for what purposes should the Forest Service spend the monies collected from National Forest visitors? Among potential responses, the highest mean score for the application of fees was for "maintain the quality of the natural environment." Although other items, such as "maintain trails," and "maintain restrooms" were also rated highly, the public's desire to maintain the quality of the natural environment indicates that people wish to see their payments applied to purposes that sustain those natural settings that drew them to National Forests.

Chapter

1

Introduction

This report presents and analyzes findings from two surveys conducted in 1999 and 2000 regarding public attitudes toward the application of recreation use fees on National Forest lands in the states of Oregon and Washington. Under authority granted by Congress in 1996 through the creation of the Recreation Fee Demonstration Program (RFDP), the Pacific Northwest Region (Region 6) of the USDA Forest Service has experimented with a series of user fees at trailheads, visitor centers, campgrounds, and other recreation sites since 1997. The study examines the responses toward recreation user fees of both the resident population of the two states, and resident and non-resident visitors to National Forest recreation sites throughout the Pacific Northwest Region.

Purpose of the Investigation

Recreational use of National Forest lands increased steadily over the latter half of the 20th century (Cordell, 1999), and as the Forest Service looks forward to the new century, its capacity to manage recreational use faces serious challenges. The cost of maintaining facilities and providing adequate services to National Forest recreational visitors has outstripped the resources allocated through traditional funding sources. New and increasing demands for recreational uses of National Forests and National Grasslands require additional vigilance to ensure resources are protected from irreversible damage.

Since the intent of the RFDP was to develop and test the utility of new or additional user fees for the maintenance and improvement of both natural resource conditions and recreation facilities and services, an evaluation of attitudes toward this program could provide insight for policies to address the challenges of increasing demands and rising management costs. Moreover, understanding user attitudes toward the RFDP seemed particularly relevant since a substantial portion of the revenue from fees charged for recreational use are to be reinvested within the administrative unit where they are collected. Since the ultimate goal of this reinvestment is to provide an immediate response to the demands of the recreating public, understanding the public attitudes toward fees is singularly important to the goals of the RFDP.

Anecdotal evidence on public acceptance of recreation fees within the RFDP was mixed, and the Forest Service recognized the need to provide a thorough, scientific examination of public attitudes regarding use fees, especially if price-based systems of recreational management were to be more widely applied. At the time of the study's initiation (September 1999), there were multiple fee systems within the Pacific Northwest, organized and administered through individual National Forests. Forest Service managers recognized the need to improve the efficiency and equity of the early experiments with the RFDP, as well as the improvement of public understanding of the fee demonstration program. Since a baseline principle was to recognize customer demands

and preferences, the research project would assist managers in revising the initial user fee system through a greater understanding of public attitudes and expectations towards the types of fees and their respective prices

Major Research Questions

The examination of the Pacific Northwest Region's (PNW) recreation program as a case study for a marketing approach embraced four major objectives:

1) Understand public attitudes toward recreation user fees;

2) Learn about the types of users and their expectations for recreation on National Forest lands;

3) Understand the type, price, and distribution of acceptable fee systems for National Forest lands; and

4) Deliver new information to PNW recreation managers so the initial fee system can be restructured to align more closely with public interests.

Within these objectives, a series of major research questions were developed to help guide the research and clarify methods and analysis. These questions were:

1) What are the characteristics of the recreating public on National Forests in the PNW?

2) What are the attitudes of the people of the Northwest and the users of recreation opportunities regarding recreation fees on National Forests?

3) What types of prices and pass options are preferred among the people of the Northwest and the users of recreation opportunities?

Each question possesses additional, embedded questions that clarify the types of users, attitudes, or pricing preferences, and these subordinate questions will be portrayed in turn during descriptions of findings.

Background for the Project

The U.S. Congress authorized the Recreation Fee Demonstration Program (RFDP) in 1996 as a rider to the 104th Congress's major appropriations bill, the Omnibus Consolidated Rescissions Act (P.L. 104-134). This new authority allows the application of new or increased "recreation user fees" on National Forests as a pilot program, with program evaluation to be reported to Congress prior to the authority's expiration on September 30, 2001. Revenue generated from the RFDP is intended to "increase the quality of the visitor experience and enhance the protection of resources" (P.L. 104-134).

The RFDP builds on a series of legislative initiatives dating back to the Outdoor Recreation Resources Review Act of 1958, which established the Outdoor Recreation

Resources Review Commission (ORRRC) whose purpose was to study the outdoor recreation potential of public lands and waters in the United States. Partially based on the recommendations of this Commission, the Land and Water Conservation Fund Act (LWCF) was passed in 1964 to help finance acquisition of outdoor recreation areas and to meet the present and future outdoor recreation demands of the public. Through multiple amendments to the LWCF, Congress identified a pattern of interests relating to the collection of fees for the use of public lands: (1) a focus on the National Park Service; (2) simplicity and uniformity in the fee system; and (3) a movement to allow the agencies collecting the fees to keep a portion of the revenues. However, it was not until 1993 that agencies were allowed to retain monies from user fees. The 1993 Budget Reconciliation Act (PL 103-66) permitted the Secretaries of the Departments of Interior and Agriculture to keep 15% of the cost of collecting recreation or admission fees (Congressional Quarterly Almanac 1993). In addition, this same Act provided the early authorization for the Forest Service to charge entrance fees at recreation areas, National Monuments, scenic areas, and 21 other areas managed by the Department of Agriculture for outdoor recreation.

By 1996, sufficient momentum had accrued in Congress to utilize recreation fees for several agencies' internal use to support the costs of managing a recreation program and maintaining facilities. Already, in 1992 and 1994, legislation was enacted allowing an increase in entrance fees at National Parks to raise additional revenue. With the passage of the Recreation Fee Demonstration Program (RFDP), Congress codified an emerging policy direction to shift some of the burden of revenue generation to those that visit public lands. The legislation intends "to demonstrate the feasibility of user-generated cost-recovery for the operation and maintenance of recreation areas of sites and habitat enhancement on federal lands" with revenue utilized for "backlogged repair and maintenance projects, … interpretation, signage, habitat or facility enhancement, resource preservation, annual operation, maintenance, and law enforcement relating to public use." The RFDP allows 80% of the fee revenues to be retained at the specific parks, forests, refuges, and other public lands where they are collected. The remaining 20% is returned to the agency. The places where fees may be charged are relatively broad, as the bill allows for fee collection "for the use of outdoor recreation sites, facilities, visitor centers, equipment, and services by individuals and groups, or any combination thereof." (RFDP Sec. 315 (b) (1)).

The application of user fees on public lands has received considerable research attention over the past few years, especially since the initiation of the RFDP. A recent examination of the RFDP (Anderson, 2001) provided a review of the literature on recreation user fees, and segregated it into categories that address the philosophy, economics, and psychology behind fee programs. In philosophical examinations of recreation user fees, several authors (Cockrell & Wellman, 1985; More, 1999; Schultz, McAvoy, & Dustin, 1988) question the idea of fees based on potential incongruence between market forces and overarching purposes for public lands. Harris and Driver (Harris & Driver, 1987) observe the same philosophical tension, but conclude that pragmatic arguments for supplying necessary financial resources will outweigh other objections. Economic research into fee projects identifies a range of issues. Clawson and Knetsch (Clawson & Knetsch, 1966) identify a series of principles for fee systems: (1) Charge fees only if they are administratively workable and profitable; (2) Carefully define the purpose of fee collection and choose an implementation method congruent with that purpose; (3) Inform visitors of the need for fees; and (4) Consider the equity issue and other potential side effects. Rosenthal and others (Rosenthal, Loomis, & Person, 1984) address fees as an economically efficient means to redistribute use, and they suggest that fees will ease resource allocation decisions by placing recreation in the same market realm as other commodities such as timber and minerals. Bowker and others (Bowker, Cordell, & Johnson, 1999) examined national sentiments toward recreation user fees and discovered

that the public does not expect to bear the full cost of public recreation, but generally supports fees, especially for specific services such as boat ramps, campgrounds, and special exhibits.

Prior research into public attitudes toward fees is extensive and somewhat scattered, yet seems to converge on principles of equity and public familiarity with fee systems, i.e. people expect fees to be commensurate with the activities undertaken, and services that have a history of fees are those that are the most broadly accepted. Looking at public attitudes as expressed in news media stories, Benton and Fan (Bengton & Fan, 2000) found that beliefs supporting a favorable attitude toward fees were based on fairness, utilitarianism, pragmatism, and economics. Earlier studies (Christensen, Stewart, & King, 1993; Leuschner, Cook, Roggenbuck, & Oderwald, 1987) find similar acceptance of fees based on equity and practical concerns, with respondents identifying that those that benefit from recreation services should bear the costs, and that fees should be reinvested in those locations where they were collected.

The RFDP faces challenges related to the issue of public familiarity, since the RFDP projects often involve charging fees for the first time, at sites that traditionally have been free of charge. Harris and Driver (Harris & Driver, 1987) mention "historic precedent" as a major element in fee acceptability, and for people that have visited sites for many years, there may be resentment about suddenly being forced to pay for something that had been free of charge (Bossie, 1984). Empirical studies (Kerr & Manfredo, 1991; McCarville, Reiling, & White, 1996) also demonstrate that a history of paying fees positively affects user attitudes as well as paying intentions.

An additional consideration affecting attitudinal responses toward fees is the degree of public confidence in the agency administering the program. Prior to implementing an RFDP project within the Enterprise Forest Project in Southern California, Winter et al. (1999) found that social trust was the most significant indicator of support for daily and annual fee amounts. (Watson & Vogt, 1998) address the possibility that responses to fees are somewhat related to the trust, confidence, and perceptions of the public in the agency itself. An agency such as the Forest Service that has been at the forefront of a series of public controversies could have a difficult time implementing new, unfamiliar fee structures on top of other major policy shifts affecting its major constituencies.

The collection of user fees occurs within a context of increasing pressure on outdoor recreation resources across the United States. Total visitor days of recreation use (RVD's) to federal lands have steadily increased in recent years (up 41% from 1986-1996), and increases to National Forest lands have been even higher, 50% for the same period (Cordell, 1999). The Forest Service is the largest provider of outdoor recreation in the United States, with over 850 million visits in 1996, or 341 million RVD's. National Forests in Oregon and Washington receive a significant proportion of this use, with estimates of RVD's at over 50 million in 1997 (USDA Forest Service 2000).

In addition, the number of people in the Pacific Northwest and across the United States is growing, leading to the logical conclusion that recreation pressure will increase proportionately with the growing population. The states of Oregon and Washington, like many states in the West, have grown faster than the national average over the last decade. Resident population figures from the 2000 census show that Washington contains a total population of 5,894,121, a 21.1% increase in the past decade, and Oregon contains a population of 3,421,399, a 20.4% increase. Washington and Oregon are ranked 10th and 11th among the 50 states in rate of population growth in the decade of 1990-2000. Like most parts of the United States, resident populations in Washington

and Oregon are concentrated in metropolitan counties, a U.S. Census Bureau designation that identifies counties with an urban core and surrounding associated population.

People visiting National Forests recreate in many different ways, although "viewing" activities, such as sightseeing, wildlife viewing, visiting a beach or waterside, or visiting a nature center or historic site, are the most popular activities by a large margin. Outdoor adventure, swimming, and camping are the next most popular activities among recreationists in the Pacific Northwest (Burchfield & Miller, 2000). About half of the population in the Pacific Northwest participates in outdoor recreation activities. This is a higher proportion than the national average, but not as high as Alaska, the Intermountain region, or the Southwest region.

Increasing recreation pressure on National Forest facilities was felt in the Pacific Northwest as well as other parts of the nation, with issues such as trail maintenance, restroom upgrading or servicing, and campground maintenance as major ongoing expenses. Annual preventative maintenance for constructed features, trails, trail bridges, and other general forest assets is roughly $14 million per year (USDA Forest Service 1999). Deferred maintenance costs run much higher, estimated in 1999 at $29 million, and requested capital improvements to meet anticipated demands run just under $45 million (USDA Forest Service 2000).

Appropriated funds from the U.S. Congress to the Pacific Northwest Region fall far short of the amounts necessary to support staff, day-to-day management expenses, required environmental analyses, and the above-mentioned maintenance costs. Between 1995 and 1999, appropriated funds to the PNW recreation budget declined slightly from a high of $32 million in 1995 to $29 million in 1999, even though the costs of management increased steadily. Efforts to reduce expenditures in the recreation program had been in effect since the early 1980's, with the closing of many facilities or the reliance on concessionaires to defray staff expenses. Typically, shortfalls in revenue were applied to maintenance budgets, resulting in the high levels of deferred maintenance mentioned above. For managers throughout the agency, revenue from implementation of the RFDP on National Forest lands became a way to make up the difference between declining appropriations and increasing demand (USDA Forest Service 1999).

The fee program within the PNW was initiated in 1997, evolving to 15 separate Natoinal Forest fee demonstration projects by 1999. In fiscal year 1998, $5.4 million was from recreation users in the fee demonstration program, with the largest proportion, 42%, coming from just one project, the Mt. St. Helens National Volcanic Monument. Of the money collected, $4.8 million was returned to the areas where fees were collected, allowing for additional interpretive programs, trails, and restrooms at Mt. St. Helens, as well as a variety of improvements at the 14 other project sites (trail maintenance, new campsites, picnic tables, and water systems are typical expenditures in fee project areas). Visitors were required to purchase different types of passes for the different fee areas, such as special passes for specific visitor centers, overnight or trailhead parking passes for individual National Forests, or permits for the use of a specific hot springs. The layering of these passes caused considerable public confusion and a degree of frustration, pushing the leaders of the Marketing Resources Group to attempt a marketing research case study on the PNW region's fee program.

In February 2000, the PNW Region underwent significant change in its approach to the RFDP. Based partially on the interim results of this research, the PNW abandoned its 1997-1999 system of fee passes to a adopt a region-wide "Northwest Forest Pass." This more simplified program consolidates earlier National Forest by National Forest passes into one, transportable ticket that can be placed on the dashboard of a car and used for

trailheads, boat launches, rustic camping sites, or interpretive sites and visitor centers. There are two basic forms to the pass: the $30 “annual” pass, good for the calendar year; and the $5 day pass, good for the day of purchase. There is even a wallet card attached to the pass, so that the bearer may be admitted to the facilities at Mt. St. Helens, the Lava River Cave on the Deschutes National Forest, and Terwilliger Hot Springs on the Willamette National Forest. The Northwest Forest Pass is the fee system that is in place for a portion of this research, the spring-summer sampling for the “on-site” portion of the research. This and other sampling frames are described in the following section.

Chapter
2

Methodology

Instrument Description: On-site and Telephone Sampling

Two surveys were used to meet the study objectives. First, a sample was taken of visitors to U.S. Forest Service recreation fee sites in Oregon and Washington. These locations were selected from sites currently involved in the Recreation Fee Demonstration Project (RFDP). Second, a telephone sampling of residents of Oregon and Washington was employed to assess attitudes toward fees by the general population of the Pacific Northwest. By using these two approaches we were able to sample both the recreation population who were currently using National Forest fee sites in Oregon and Washington and the general population of these two states regarding attitudes toward the use of recreation fees.

The use of these two approaches was an attempt to avoid potential pitfalls associated with using either approach alone. For example, an approach that only sampled recreationists at the fee site could possible exclude the input of those who may have chosen to recreate elsewhere because of negative feeling toward the use of fees. This situation could produce results that artificially inflate positive attitudes toward recreational fees. Conversely, if only a general population study was conducted, precision regarding the attitudes of recreationists most familiar with the fee program (those actually using the areas) may be overshadowed by the responses of the general population.

The first of the two surveys occurred in the fall of 1999 and was a telephone survey of randomly selected adults across the two states to gain insight into the attitudes of the general public. The second survey examined the views of actual visitors to National Forest recreation sites, and this "on-site" survey was administered in two phases: the fall and winter of 1999-2000, and the spring/summer season in the year 2000. Most questions within the two surveys were identical, although several special questions were added in each survey to take advantage of the potentially discrete interests of the sampled populations.

Changes made in fee structure and pricing with the initiation of the "Northwest Forest Pass" may have affected some of the results from the spring/summer phase of the "on-site" survey, since fees were levied in a new manner beginning in May 2000.

Sampling for this study reflected a very similar distribution among the metropolitan/non-metropolitan split among Oregon's general population (73% of the population in metropolitan counties and 27% in non-metropolitan in the 1999 Census estimate for Oregon, with the sample at 71% metropolitan and 29% non-metropolitan). However, the metropolitan counties are even more dominant in Washington (83% of the population in

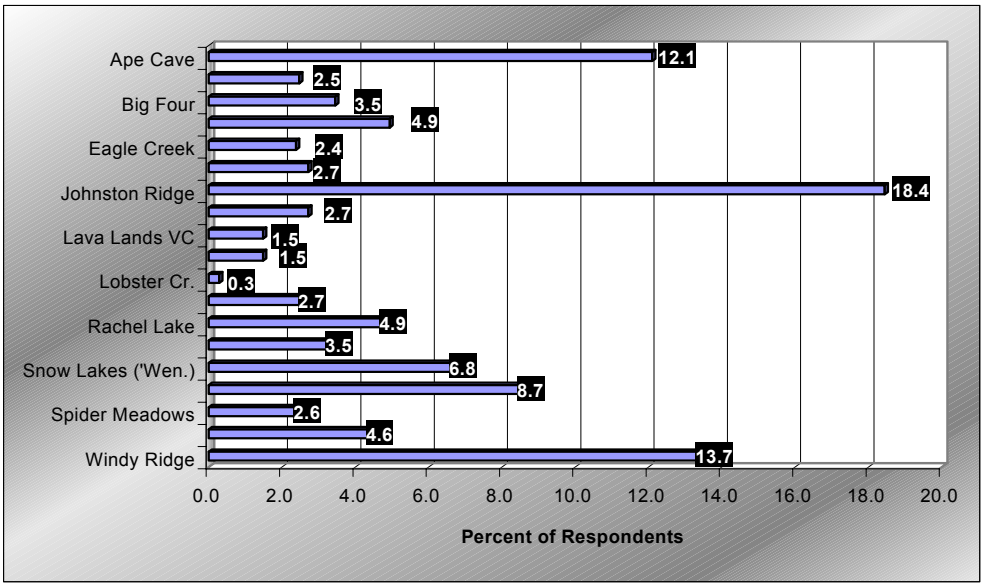
metropolitan counties and 17% in non-metropolitan counties), indicated that the sample of respondents is slightly skewed to non-metropolitan residents.

On-Site Survey

Population & Sampling

The population examined in the on-site survey were visitors, eighteen years of age and older, to RFDP sites in the Pacific Northwest. The sample was taken during a twelve-month period from September 1999 through August 2000. The sample of this population consisted of 2429 visitors contacted at nineteen RFDP locations within the Oregon and Washington. The survey locations and percent of sample taken at each location are presented in Figure 1.

• Figure 1. Survey locations and percent of sample by location from the Forest Service RFDP user sample.



The sample size from each survey location was determined using a Probability Proportionate to Size (PPS) method. This methodology was used to assure a representative sample of sites with different levels of visitation. Using a PPS method is appropriate when clusters of the sample are of differing size. This method guards against over-sampling certain sites, assures homogeneity of samples within the clusters, and provides a more equal probability of sampling (Babbie, 1998). Within each location a systematic random sample was taken of visitors at appropriate entry points (trail heads, parking lots, and visitor centers). Sampling also occurred on weekdays and weekends, as well as holiday and non-holiday periods.

Determinants of the PPS were based on visitation estimates from the Pacific Northwest region of the Forest Service. These included data acquired from Region 6 of the Forest Service on recreational use by forest and by Recreational Opportunity Spectrum category. The selection of sites was determined from existing fee demonstration sites within the region.

At each survey location, respondents completed an on-site questionnaire and also took with them a second more detailed questionnaire that they then returned by mail. All respondents to the on-site instrument were included in the mail-return questionnaire. For

the mail-return questionnaire the procedure included administration of the initial questionnaire, followed by a reminder postcard for non-respondents, and two separate replacement questionnaires mailed to subsequent non-respondents. The response for the mail-return questionnaire was 54.1 percent.

Specific On-Site Survey Procedures

The procedures used for the mail return portion were a modification of the Dillman Total Design Method (Dillman, 1978). The modification from Dillman's design was the use of business reply postage for the questionnaire rather than first class stamps. In addition, the use of registered mail for replacement mailings was not used. Included within the mail-return questionnaire was a cover letter explaining the study[1]. One week after the administration of the questionnaires, a reminder post card was sent to non-respondents. Two weeks after the mailing of reminder post cards a replacement questionnaire and cover letter was sent to respondents who had not returned the instrument. Two weeks after this first replacement mailing was sent a second replacement questionnaire and cover letter was mailed to non-respondents. Thus, each subject received four contacts from the research team.

Contact of recreationists at the survey location was at the point of exit for the recreation area. Survey workers used a systematic random sample of visitors to the site. At the point of contact respondents were asked to participate in the survey, given an introduction to the purpose of the study, and provided with instructions on completing both the on-site and mail-return questionnaires. Names and addresses of the respondents were obtained at this time for the purpose of follow-up mailings.

Telephone Survey

A separate telephone survey of residents of Oregon and Washington used substantially the same survey instrument as the on-site survey. Certain modifications of wording or orders of presentation were made to facilitate administration of the questions over the telephone. The University of Montana's Bureau of Business and Economic Research's (BBER) Survey Research Program provided services to administer the telephone survey portion of this study.

Telephone Sampling

Telephone sampling was conducted using a Random-Digit Dial (RDD) process. A Kish table methodology was used to randomly select respondents within households (Kish, 1949). The population sampled comprised adult residents of Oregon and Washington with a working telephone. This population should not be confused with all residents of Washington and Oregon, since it excludes individuals without access to a working telephones at their residence, the institutional population, and those absent from the state during the survey period. The 1990 Census found that approximately 3.5 percent of occupied housing units in Washington and 4.5 percent in Oregon were without a telephone (U.S Census Bureau, 1999). This 3.5 - 4.5 percent under coverage is not considered an inappropriately high degree of under coverage bias (Sudman et al., 1996).

This sampling methodology yielded 1,676 completed telephone questionnaires. Table One details the final sampling resolution for the telephone methodology. The total response rate for this portion of the study was 52.4 percent. That is, of the 5,659

[1] See Appendix X for copies of all on-site survey materials.

telephone numbers drawn from Oregon and Washington, 3199 were available for use in the study. Un available numbers included those that were no longer working numbers (disconnected or no longer in service), numbers that were non-eligible because they connected to businesses or computers, and numbers that connected to fax machines. Of the 3199 eligible numbers 1,676 were converted to completed questionnaires and 1,523 were non-respondents. Thus, the response rate for the telephone sample was 52.4 percent.

- Table 0-1. Telephone survey sample resolution. Source Bureau of Business And Economic Research (BBER), The University of Montana.

		Mean number of attempts
Total telephone numbers drawn	5,659	
Non-working numbers	1,397	1.6
Non-eligible numbers	774	2.3
Faxes	289	3.9
Total number of eligible numbers	3,199	
Completions	**1,676**	**4.7**
Spanish language	38	4.7
Refusal conversions	104	4.9
Regular interviews	1,534	4.6
Non-Completions	**1523**	
Refusals	1,293	10.9
Non-contacted	228	6.7
Non-interviews	2	
Response rate	**52.4%**	

Telephone Survey Administration

The final telephone questionnaire was administered using a Computer Assisted Telephone Interview (CATI) process. Interviews were conducted in the dedicated telephone interview facility at BBER. This facility contains twelve sound insulated telephone interview stations plus viewing and monitoring capability for supervisors. The supervisor can visually observe each interviewer and monitor each telephone call. Call monitoring was an important control mechanism that reinforced data quality.

Each station was equipped with a telephone, headset, and computer, allowing CATI operation. The interviewers administered the survey from the computer screen and directly entered the pre-coded responses into the computer, speeding the data capture process and minimizing the opportunity for errors.

The interviews were conducted using the Bureau's interviewers and shift supervisors. There were twenty-five interviewers with more than one year of experience, and several have been with the Bureau for ten years or longer. The shift supervisors are themselves seasoned interviewers with years of experience conducting surveys for a variety of organizations, including the US Bureau of the Census. New interviewers receive classroom and "on the job" training, and are closely monitored by the shift supervisors.

Chapter
3

Findings

Characteristics of Recreationists in the Pacific Northwest

This chapter reports the study findings concerning the general characteristics of the recreating public in Oregon and Washington. Results from the two methodologies (the telephone survey and the on-site visitor survey) are reported separately. First, the characteristics of the National Forest Service recreational user population at Recreation Fee Demonstration Project sites in the Pacific Northwest are described using the on-site survey results and, second, the characteristics of the general recreating public in Oregon and Washington are discussed using the telephone survey results.

Characteristics of the National Forest Service Recreational User Population at Recreation Fee Demonstration Project Sites in Oregon and Washington

Analysis in this section makes use of data collected in the on-site and mail-return questionnaires administered at Recreation Fee Demonstration Project (RFDP) sites in Oregon and Washington. A specific goal within this section is to identify general types of users. In the following sections, we will explore whether these different types of user populations have different attitudes toward recreational fees.

Several methods were used to describe recreationists who are using RFDP sites. First, a series of analysis were conducted to characterize types of users based on the outcomes or experience preferences they held. The use of a Recreational Experience Preference measures (REP) is an attempt to group users together that have similar desired outcomes. Next, an analysis was conducted to identify groups of respondents in terms of the activity participation within RFDP sites. Taken together these analyses examine the notion that there are identifiable user groups based on the types of experiences they seek and by the types of activities they engage.

In addition to this classification of users, the recreating populations at RFDP sites were described in terms of several additional variables. These variables include measures of personal involvement with the site, selected socio-demographic characteristics (ethnicity, employment categories, education), and specific recreational characteristics such as number of previous visits to the site, visitation frequency, length of stay, and temporal patterns of visitation (weekday, weekend, holidays, etc.). The results for these measures are reported in this section.

Are there Identifiable Forest Service User Groups? – Recreation Experience Preferences (REP)

The outcomes that people seek, or their Recreational Experience Preferences (REP) are one way that groups of recreationists can be identified. Understanding REP can help managers provide the opportunities that people seek, identify where experience quality

problems may lie, and more effectively deal with the diversity of publics visiting the area. In addition to these considerations it is possible that different types of visitors, identified by the outcomes they seek, might have different attitudes regarding management and recreational fees. In this section, we (1) discuss how REP elements were measured in this study; (2) show how we characterized National Forest visitors by their experience preferences.

Measurement of REP

The development of meaningful measures of the reasons why individuals visit an area requires grouping respondents with similar experience preferences. For this study, our measurement process involved two major steps: (1) respondents were asked to identify the importance of 19 specific statements; and (2) these data were then subject to a factor analysis to determine if a simpler underlying structure exists within the data. Each of the factors represents a reason for visiting the recreation area that has a statistical basis. This somewhat involved process was called for because understanding reasons for visiting a recreation area is fundamental to the remaining analysis and sections of the report.

Identifying the Importance of Individual Statements of Reasons for Visiting a Recreational Site

Following this process, scale items from (Driver, 1977) and other's work were selected to represent these dimensions. The items listed by Driver have been developed and tested on thousands of subjects in a variety of park, recreation area and wilderness settings, and represent a potentially important descriptive approach to the outcomes recreationists seek. Table Two shows the experience dimension and individual items used in this study. In order to use these items in our study, they were randomly sorted in the questionnaire. Respondents were asked to indicate the importance of each of the items in terms of a reason for visiting the site on a five-position scale ranging from "very unimportant" to "very important". Mean responses to these individual items are included in Table two and suggest that greater connection with nature, experience nature in a pristine setting and greater connection with wilderness were all important experience elements to the respondents. Opportunities to meet new people were less important experience elements.

- Table 0-1. Experience dimensions and individual items used in RFDP study (on-site sample) along with the mean response for each measure (five-position scale ranging from 1 (very unimportant) to 2 (very important) (source: on-site/mail-return survey of RFDP sites).

Physical Health and Health Maintenance	Mental Health and Health Maintenance
• Improved physical health ***3.13***	• Reduced stress ***3.53***
• Provided a challenge that tested my abilities ***2.78***	• Improved mental health. ***3.36***
• Provided a sense of adventure ***3.65***	• Spiritual growth ***3.04***
Personal Development and Growth	**Personal Experience of Natural Settings**
• Increased self-reliance ***2.75***	• Being at one with nature ***3.36***
• Increased self-confidence ***2.73***	• Opportunity for solitude ***3.14***
• Increased sense of competence ***2.75***	• Experience nature in a pristine setting ***3.91***
Environmental Connection and Benefits	**Socio-Cultural Benefits**
• Greater connection with nature ***3.96***	• Enhance family relations ***3.34***
• Greater connection with wilderness ***3.68***	• Appreciation of cultural history ***3.46***
• Opportunities to view wildlife ***3.38***	• Strengthen relationship with my companions ***3.61***
	• Opportunities to meet new people ***2.18***

Factor Analysis of Scores from Importance Ratings

In step 2, the scores from the importance ratings were examined using a principal components factor analysis, a multi-variate procedure designed to determine if a simpler underlying structure exists. Since for all the dimensions shown in Table Two respondents were asked to rate more than one item, this procedure provides a sound process to reduce the amount of data we have to work with. In addition, combining variables statistically provides a more reliable measurement of experience preference elements since it is most likely that recreationists seek multiple outcome, or bundles of experience preferences (Manning, 1999). Three distinct REP factors were identified using this procedure (Table 3). Important factor-loading data are available in the Technical Appendix for this report.

- Table 0-2. Recreation Experience Preference (REP) factors for visiting the National Forest recreation site as identified from the principal components factor analysis of individual scale items(source: on-site/mail-return survey of RFDP sites).

Factor 1: Health/Competence	*Factor 2: Nature Appreciation*	*Factor 3: Affiliation*
Self-confidence	Connect with wilderness	Enhance family relations
Self-reliance	Pristine nature	Relation with companions
Competence	Connect with nature	
Test abilities	Be at one with nature	
Physical health	View wildlife	

What these factors represent are experience preference outcome types. That is, for recreationists at RFDP sites there are three basic types of outcomes (or bundles of outcome) that they seek.

Factor 1 suggests that outcomes associated with enhanced physical health and self-confidence in ones abilities are an underlying experience preference. Thus, a focus on personal benefits associated with recreation participation is paramount. This factor can be termed health and competence.

A second experience preference factor that emerges can be labeled nature appreciation. Within this factor, motivations are high for personal connection with nature, wilderness, and experiences in "pristine" natural surroundings. An opportunity for viewing wildlife, often a powerful symbol of wild natural settings, is associated with this factor.

Affiliation characterizes a third experience preference factor within the analysis of visitor experience dimensions. Affiliation here refers to a desire to connect with both friends and family. Outdoor recreation pursuits often provide the opportunity for interpersonal interaction. The emergence of this factor highlights this element for respondents in the Pacific Northwest.

Classification of Study Respondents by Reason for Visiting the Recreation Area

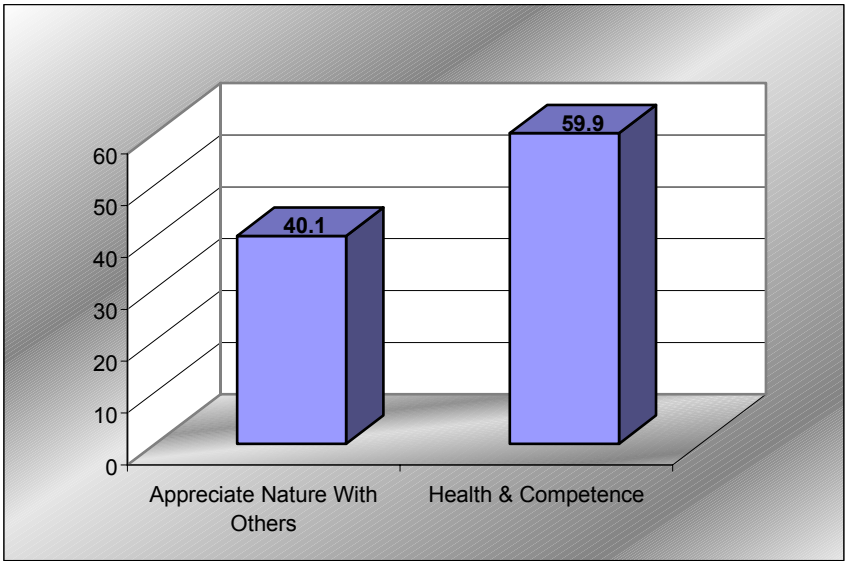
Individual recreationists at RFDP sites associate themselves with one or more of the basic outcome factors described above. In order to identify groups of recreationists based on the types of outcomes they seek respondents were segmented according to the pattern of scores for the three REP factors that were identified above. A statistical procedure called cluster analysis was used to accomplish this task. The cluster analysis was conducted by directing the analysis program to identify results with two and three segments. Each of these analyses were examined to determine which seemed to do the best job of

characterizing the data and maximizing the statistical differences among segments, and the analysis with two segments seemed to best meet our objectives. Table Four details the categories identified and the factors that figure prominently for each segment. Figure Two shows the proportion of respondents that fell within each cluster.

- Table 0-3. Final Cluster Centers for REP factors determining cluster membership(source: on-site/mail-return survey of RFDP sites)

	Nature appreciation with others	Health & competence
Health/competence	-0.91568	0.61223
Nature appreciation	0.32817	-0.21941
Affiliation	0.14224	-0.0951

- Figure 2. Percent of respondents by Recreation Experience Preference (REP) cluster (source: on-site/mail-return survey of RFDP sites)



The first cluster category isolates respondents who had higher scores on the nature appreciation, and affiliation dimensions. These respondents are characterized as "nature appreciation with others". That is, they are concerned with enjoying the natural world and sharing it with friends and family.

A second category of respondents is characterized by the singe factor of health and competence. Respondents within this cluster are focused primarily on the personal benefits associated with physical fitness and the development of outdoor skills and achievement.

One possible differentiation between these two categories can be described in terms of how the natural environment is perceived. It is possible that the health and competence cluster reflects recreationists who view the natural environment as the context of their recreation. That is, the natural world is a place in which one can obtain personal goals and achievements. For the Nature appreciation cluster it is possible that the natural world is the primary focus, or content of the experience. This differentiation of recreationists based on their perception of the natural environment has been suggested by the concept of "mode of experience" (Jacob & Schreyer, 1980). This concept differentiates between

individuals who focus on specific natural environmental elements for the attainment of their goals versus those for whom the natural environment serves as a backdrop for their recreational pursuits.

Are there Identifiable Forest Service User Groups? – Activity Cluster

Another way to characterize recreationists is by the type of activities they participate in. This approach to understanding the character of recreation has a long history in recreation research. Although outcome oriented understandings of recreation (such as experience elements or benefits based approaches) have become the most common approach, it is still helpful to identify people in terms of their activities and the motivations associated with them (Driver & Brown, 1975; Manning, 1999; McCool, 1978). Respondents were categorized according to the types of recreation activities they participated in, at the survey location, during the last twelve months. A factor and cluster analysis of activity participation (similar to that conducted on REP) yielded six distinct clusters of recreation activity participation. An underlying assumption of this analysis is that recreationists can be described in terms of the type of activities they engage in at a particular area and that recreationists associated with different groups of activities might have different views regarding recreational fees. The relationship between activity type, recreational experience preference and attitudes toward fees will be discussed in a later section within this report.

Factor Analysis of Activity Participation Items

Respondents were presented with a list of twenty-five activities and asked to identify all the activities they participated in "during the last twelve months in the National Forests of Washing or Oregon". In order to determine if recreationists tended to participate in groups of similar activities, responses to this question were analyzed using a principal components factor analysis followed by a Varimax rotation to display the results. Table Five details the six factors and the activities within them[2].

- Table 0-4. Activity factors for National Forest recreational visitors as identified from the principal components factor analysis of individual activity items. Showing the activities within each factor and the percent of respondents who indicated they participated in that activity, on National Forest lands during the last twelve months (source: on-site/mail-return survey of RFDP sites)[3].

Factor 1 - Backcountry Purist	Factor 2 - Water Oriented
• Backpacking ***25.6%***	• Boating ***16.9%***
• Skiing ***24.3%***	• Rafting ***13.6%***
• Climbing ***12.4%***	• Swimming ***18.6%***
• Day hiking (off trail) ***18.6%***	
• Camping at places with little or no improvements ***31.8%***	
Factor 3 - Front-Country Traditional	**Factor 4 - Nature Appreciation**
• Visiting visitor centers ***61.4%***	• Nature study ***16.9%***
• Driving and sightseeing ***74.8%***	• Nature photography ***32.7%***
• Picnicking ***48.1%***	• Viewing wildlife ***46.0%***
Factor 5 - Backcountry Traditional	**Factor 6 - RV/OHV Oriented**
• Hunting ***6.3%***	• Recreational vehicle camping ***11.5%***
• Horseback riding ***4.6%***	• Off-highway vehicle driving ***8.9%***
• Fishing ***17.2%***	• Camping at campgrounds with facilities ***38.4%***

[2] See Technical Appendix for specific factor-loading data for this analysis
[3] Not all activities in the question were included in the final factor analysis due to low communality with other items.

This analysis suggests that, for respondents to fee demonstration areas, there are at least six underlying types of activity participation. For factor one the term "backcountry purist" was applied. For this type of activity there appears to be an association with more human-powered activity, less emphasis on comfort or convenience oriented facilities, and more of a sense of dispersed recreation. The term “purist” here is intended to reflect the particular focus upon human powered activities in settings with lower levels of development. This phrase is not intended to suggest that this factor is any more *appropriate* to the areas than any of the other factors identified.

In contrast, the "backcountry traditional" factor (factor five) includes the types of activities with long-standing association with backcountry activity, namely, hunting, horse travel and fishing. It is likely that there is a dispersed recreation element within this factor but the focus here is engaging in these traditional activities.

Traditional front-country activities such as sightseeing, picnicking and visitor center use make up a factor three. These types of activities represent a more passive, and free-form type of activity. These type of activities have been called "passive free-play" in early activity-package studies (McCool, 1978).

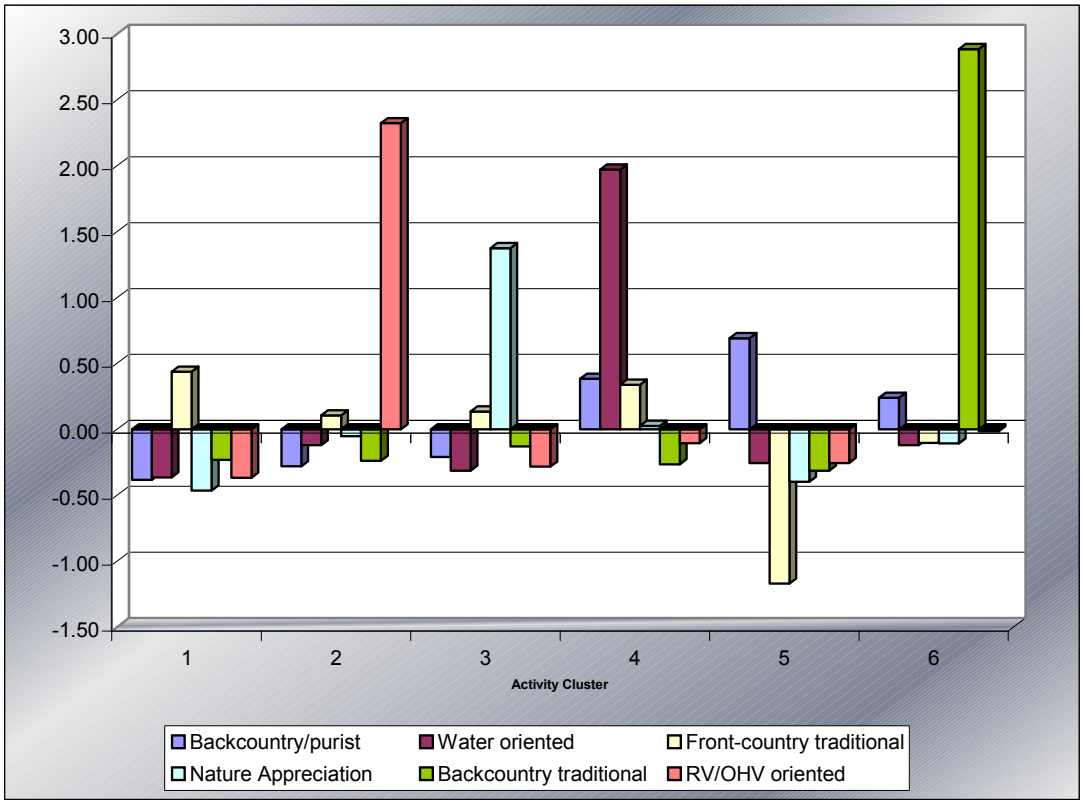
Activities that revolve around motorized conveyance and facility oriented camping appear to represent another important factor (factor 6). Respondents identified participation in recreational activities that were dependent on the use of motorized equipment (off-highway vehicles and recreational vehicles). Participation in these types of activities seems also to be associated with camping in areas that have facilities available to accommodate motorized recreation.

Water-oriented activities and nature appreciation activities characterize factors two and four respectively. In the case of water-oriented factor, interaction with the resource is directed toward engagement in specific behaviors (boating, rafting and swimming). For Nature appreciation the interaction with the resource is not tied to specific behavior engagement per se but is a focus on learning about the environment itself.

Classification of Study Respondents by Activity Type

Respondents were categorized according to their patterns of scores for the six activity factors that were identified above. A cluster analysis was used to accomplish this task. The analysis was conducted by directing the analysis program to identify results with two through six segments. Each of these analyses were examined to characterizing the data and maximizing the statistical differences among segments. The analysis with six segments differentiated respondents in terms of their association with particular activity factors. Figure Three shows the final cluster centers for each of the factors and clusters.

• Figure 3. Comparison of final cluster centers and cluster membership for analysis of activity factor scores (source: on-site/mail-return survey of RFDP sites).

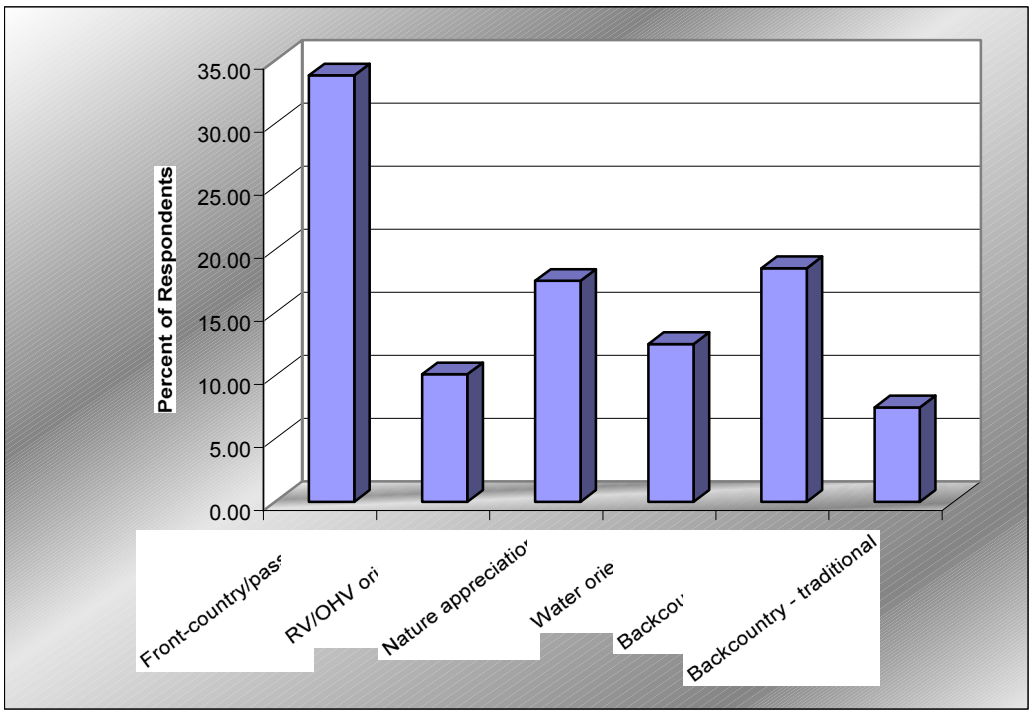


A strong positive association of a factor cluster center with a particular cluster suggests that the cluster is characterized by this element. For example, in cluster six, the "backcountry traditional" factor stands out as being strongly associated with this cluster. Thus, we named this cluster "backcountry traditional".

Cluster one offers a slightly less clear picture in terms of factors that associate with it. The front-country traditional factor is the most positively associated factor. However, none of the factors load strongly on this cluster. For this reason, we have named this cluster "front-country/passive". The passive element of this is an attempt to capture the fact that respondents in this category do not strongly associate with any particular activity factor.

The remaining four clusters seem to be primarily determined by a single strongly associated activity factor. Cluster two has the most association with the recreational vehicle and off-highway vehicle oriented activity factor, cluster three is associated with nature appreciation, cluster four with the water oriented factor, and cluster five with the backcountry purist factor. Interestingly, for cluster five there is a strong negative association with front-country traditional. This has intuitive appeal because one would expect that those who are more purist in their backcountry activities would be less likely to engage in front-country activities like driving and sightseeing, picnicking, and the like. Figure Four shows the distribution of respondents into these six activity clusters.

• Figure 4. Percent of respondents by activity cluster (source: on-site/mail-return survey of RFDP sites)



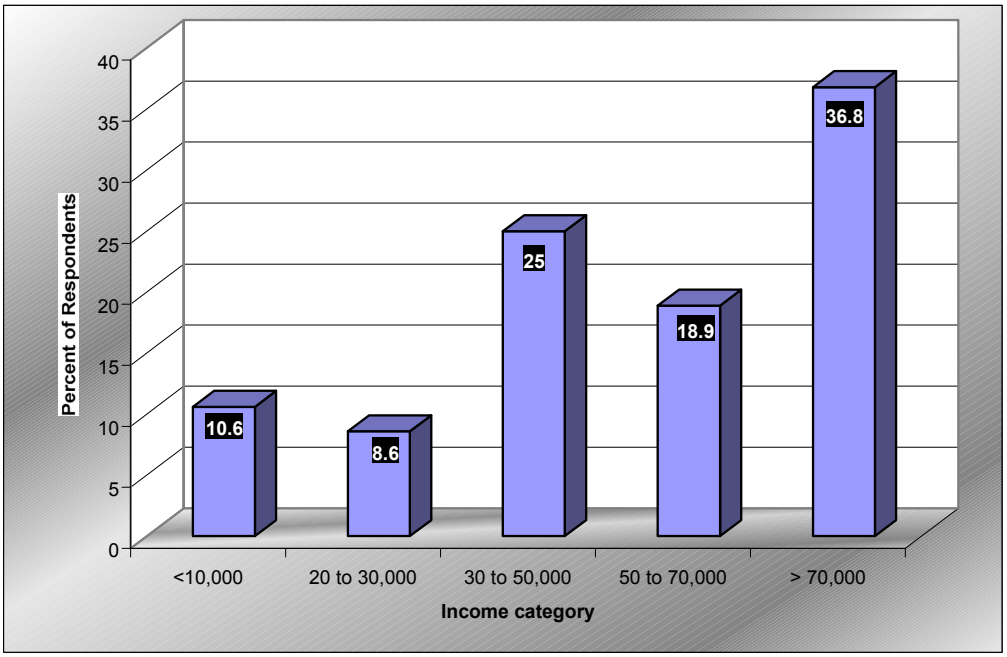
In terms of activity, "front-country passive" recreationists are in the majority. Intuitively this would make the most sense. The other recreation activity clusters seem to suggest somewhat more specialized approaches to recreation. As such one would expect that over-all numbers would be smaller than those who have less defined patterns of behavior or are less involved.

Taken together, it appears that respondents can be characterized both by the outcomes that they seek (REP) and the means of achieving those outcomes (activity). This notion is consistent with an approach that views recreational behavior as goal directed. That is, individuals engage in recreational activities to achieve known and valued personal and social benefits. In subsequent analysis, detailed in this report we will examine whether different groups of visitors offer different evaluations of recreational fees.

Household Income categories

Respondents at RFDP sites were also characterized by household income. Identification of respondents in terms of income allows for an analysis of differences in attitudes toward recreational fees based on income level. This analysis will be presented in subsequent sections of this report. Thus, respondents to the questionnaire administered at RFDP sites were asked to indicate their household income. Figure Five details the responses to this question.

• Figure 5. Household income of Recreationists at National Forest Service fee demonstration sites in Oregon and Washington (source: on-site/mail-return survey of RFDP sites).



Level of Involvement With the Particular Recreation Site

Another potentially important classification of users is their relative involvement with a particular recreation area. The notion here is that users who have a longer personal history or more specific focus on an area might evaluate fees differently that those who are less connected to the site. Differences in site involvement could have an influence on fee evaluation in many different ways. For example, individuals with more involvement might view fees as an unwelcome intrusion into a special experience in a place that they have been coming to for years. On the other hand, more involved visitors might view fees more favorably than others because they may anticipate increased revenue from fees will go toward increased maintenance and facilities in an area that they value.

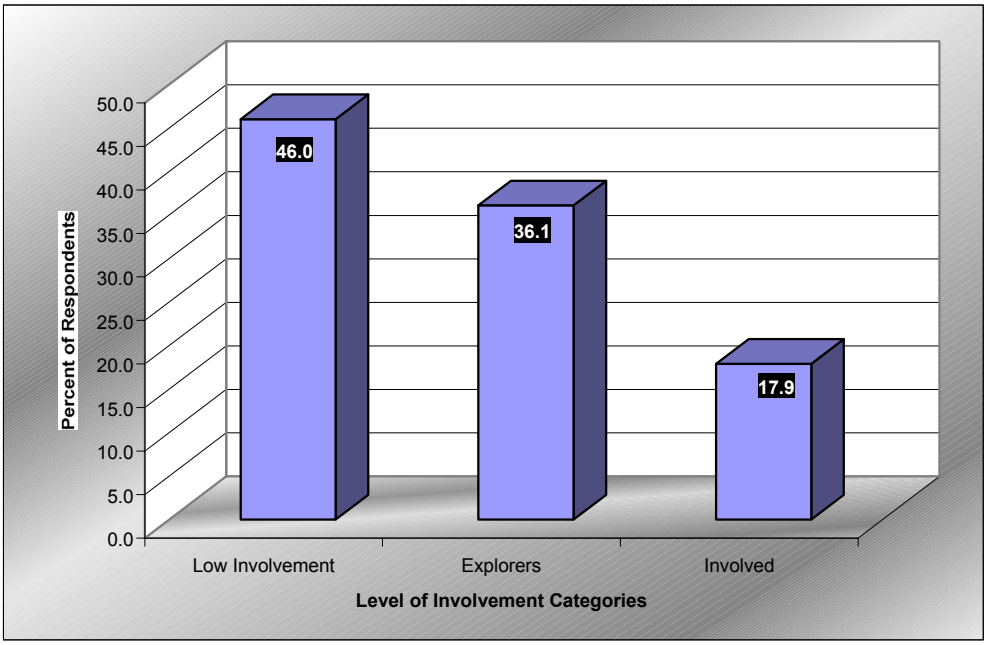
A categorical variable was developed to measure this construct of site involvement. Specifically, two separate measures were combined to create a single measure. The first variable used was primary purpose of visit. In this measure, respondents indicated if their visit to the site of survey contact was "the primary purpose" of their trip or "one of several purposes". The second measure asked, "How many previous visits to this site have you made in the last twelve months?" Three categories of respondents were identified. Table Six summarizes how respondents were classified. Three involvement categories were identified: low involvement, explorers, and the involved.

Table 0-5. Categorization method for development of level of involvement variable (source: on-site/mail-return survey of RFDP sites).

	Individual Measures Combined	
Involvement Category	**Site primary purpose (yes or no)**	**Previous Visits (first visit vs. repeat visit)**
Low Involvement	No	First Visit
Explorers	Yes	First Visit
Involved	Yes	Repeat Visit

Low involvement visitors are those who are not focused primarily on this particular site and who have never been there before. The image here is of someone traveling in an area and happens upon a particular trail or recreation site. Explorers on the other hand are at the particular location for the first time but their presence represents an intentional choice. Involved recreationists are those who have been to the site before and have made a conscious decision to return. The results of this categorization are displayed in Figure Six.

- Figure 6. Level of involvement with the site -- a combined measure of primary purpose of visit and number of previous visits to the site (source: on-site/mail-return survey of RFDP sites).



In subsequent fee attitude analysis, this variable along with REP cluster, activity cluster, and household income categories will serve as independent variables. Statistical tests will serve to measure if these variables have a significant influence on the evaluation of recreational fees in the Pacific Northwest.

Social Demographic and Basic Recreation Participation Characteristics of National Forest Recreation Users at RFDP Site in Oregon and Washington.

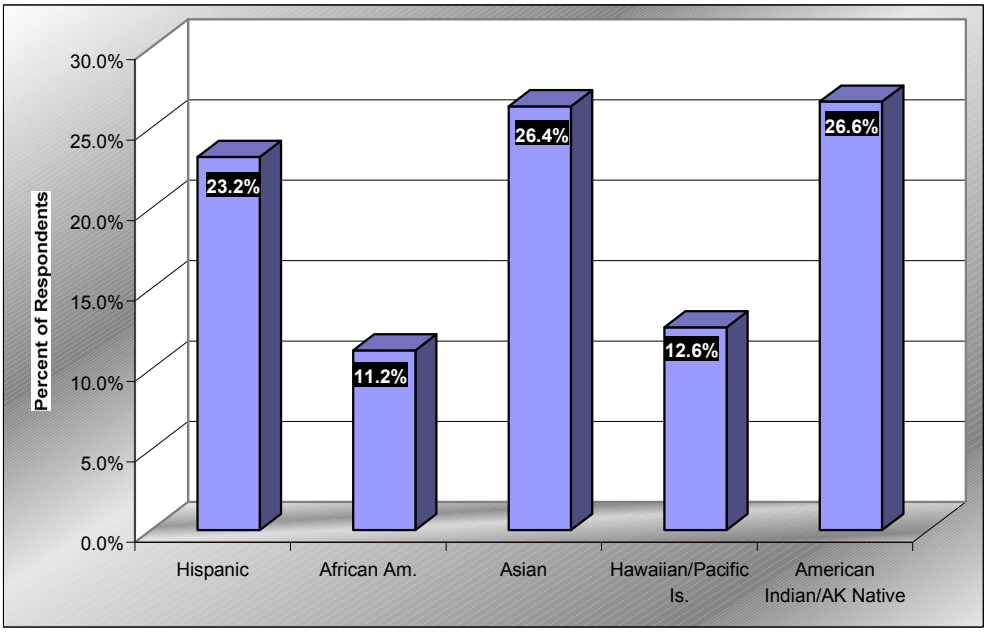
Measures of social-demographics and recreation characteristics were also included in the questionnaire. These variables serve as descriptors of the population but do not play a roll as independent variables relative to fee attitudes. These measures include age, gender, racial and ethnic affiliation, occupation, and level of schooling attained. Recreational characteristics also help to describe the nature of the user population. These measures include: years visiting the site, frequency and temporal distribution of visits to National Forest sites, and frequency of non-national forest recreation visits.

Social-Demographic Descriptors of the User Population

The average age of National Forest Users interviewed was 43 years. This is consistent with age profiles reported in surveys of recreationists in other contexts (Cordell, 1999; Miller, McCool, & Freimund, 1996; Miller & S.F., 1994). The majority of respondents were male (55.4%) and the overwhelming majority identified their ethnic or racial affiliation as "white" (92.6%).

Looking specifically at ethnic and racial affiliation 15.5% of respondents also identified with some non-white ethnic or racial category[4]. Figure Seven details the ethnic/racial affiliation of non-white respondents.

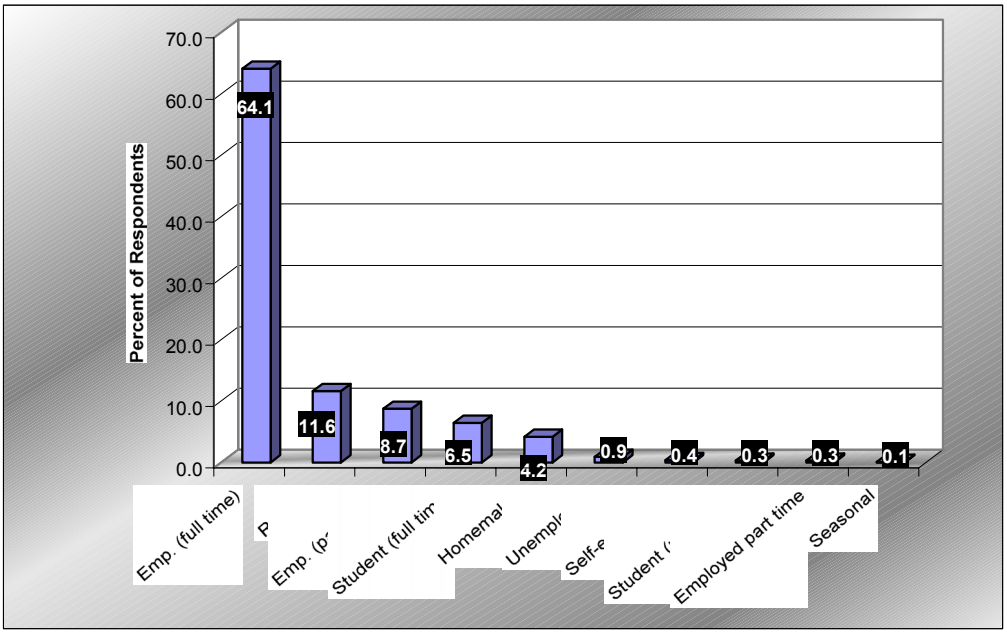
- Figure 7. Distribution of ethnic or racial affiliation for the 15.5% of respondents who identified with non-white categories (source: on-site/mail-return survey of RFDP sites).



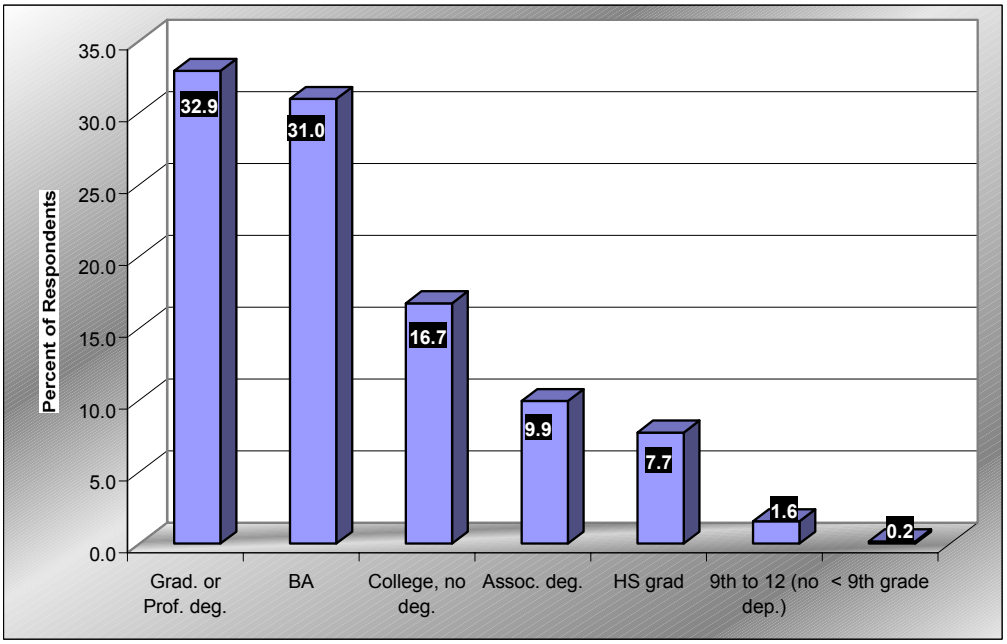
[4] Percentages for ethnic and racial affiliation do not total 100% since respondents could select more than one category.

Full time employment was the most frequently cited occupational category. Retired individuals make up the second largest category of visitors to the National Forest sites surveyed (Figure 8). Respondents also reported a high level of educational attainment. Nearly 64% of respondents indicated they had completed a Bachelors degree or higher (Figure 9).

- Figure 8. Distribution of employment categories for users of National Forest recreation areas studied (source: on-site/mail-return survey of RFDP sites).



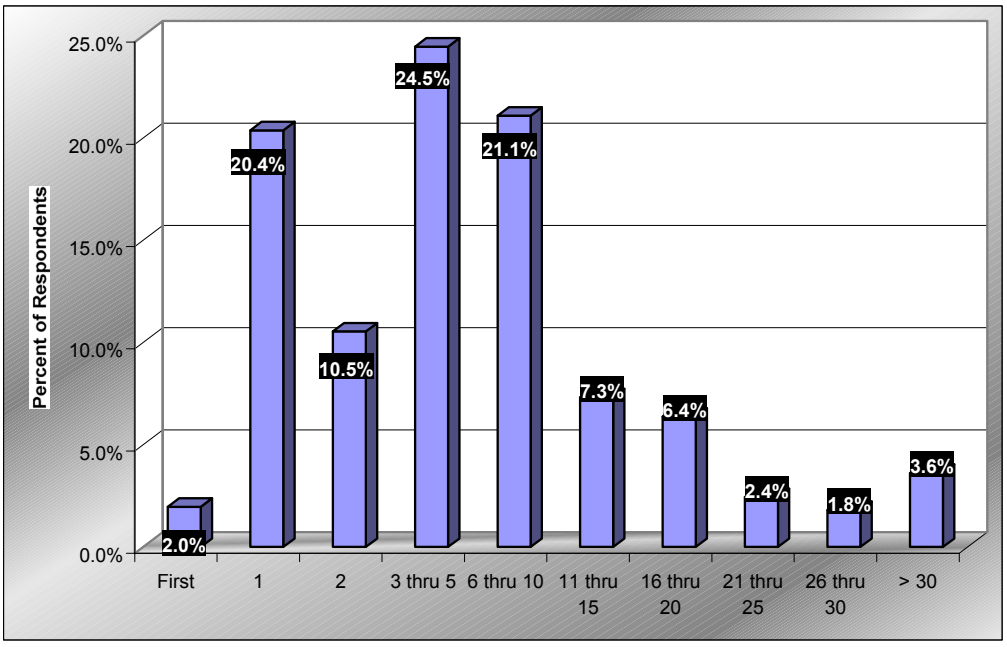
- Figure 9. Highest level of schooling completed by users of National Forest recreation areas in Oregon or Washington (source: on-site/mail-return survey of RFDP sites).



Basic Recreational Participation Characteristics

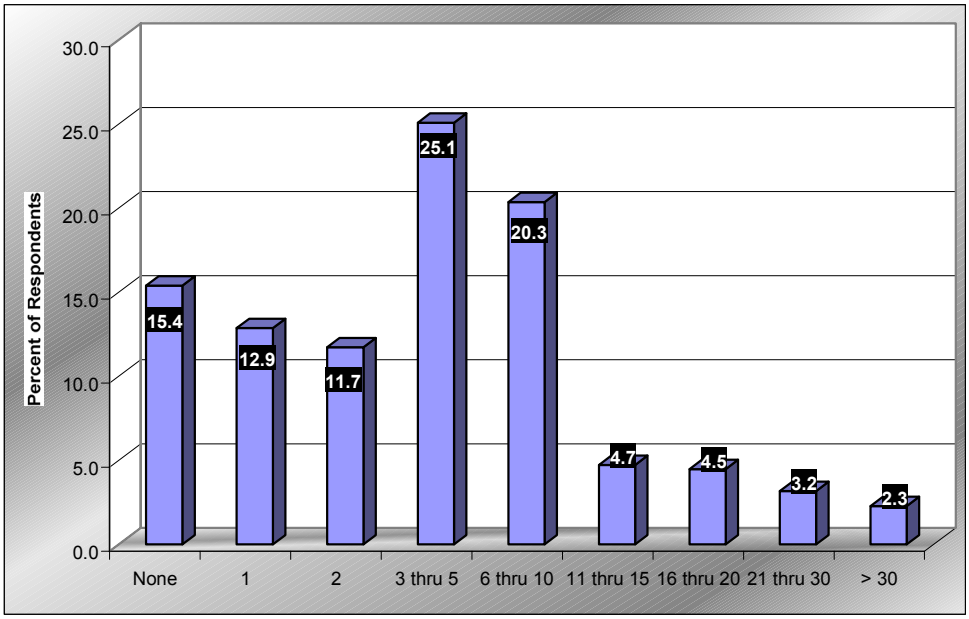
Overall, visitors interviewed were either first time visitors or had few previous experiences with the area. The majority of respondents indicated that they were visiting the site for the first time (53.5%). For all respondents 67.1% had less than three years prior experience with the site. However, only 2% of respondents indicated that this was the first visit to a national forest site in Oregon or Washington they had made during the last 12 months. Moreover, 42.6% of respondents indicated that they have visited a National Forest Site five or more times in the last twelve months (figure 10).

- Figure 10. Number of previous visits to National Forests in Oregon or Washington in the last twelve months (source: on-site/mail-return survey of RFDP sites).



Respondents also indicated that they were making use of non-national forest recreation areas, although at a lower rate than for National Forest recreation sites. Only 15.4% of respondents said they had made no visits to non-national forest sites in the last twelve months. In addition, 35.0% of respondents indicated that they have visited a non-National Forest Site five or more times in the last twelve months (Figure 11).

- Figure 11 Frequency of non-national forest recreation visits during the last twelve months (source: on-site/mail-return survey of RFDP sites).



Temporal distribution and duration of visits to National Forests in Oregon or Washington was another important descriptor of recreational use. As reflected in Table Seven, respondents indicated that the majority of their trips to National Forest areas during the last twelve months were day trips. These trips were nearly evenly divided between weekdays and weekends (Table 8). The overall picture here is of recreationists using National Forest areas as a day-to-day resource. That is, they are making shorter trips that are not limited to special holiday travel.

- Table 0-6. Estimated percentage of trips taken to National Forest by Duration of trip (source: on-site/mail-return survey of RFDP sites).

	N	Min.	Max.	Mean	Std. Dev.
Percent day trips	1272	0	100	67.1	36.64
Percent overnight trips	1271	0	100	14.0	22.76
Percent multiple night trips	1271	0	100	17.2	30.32

- Respondents were asked to estimate the percentage of their trips that fell within these categories. Mean values here refer to the mean of these estimates.

- Table 0-7. Estimated percentage of trips taken to National Forest areas by time of week and holidays (source: on-site/mail-return survey of RFDP sites).

	N	Min.	Max.	Mean	Std. Dev.
Percent weekdays	1269	0	100	40.9	36.42
Percent weekends	1268	0	100	50.7	35.37
Percent holiday	1267	0	100	6.9	17.89

- Respondents were asked to estimate the percentage of their trips that fell within these categories. Mean values here refer to the mean of these estimates.

Characteristics of the General Recreating Public in Oregon and Washington – Findings From the Telephone Survey

In the Pacific Northwest and across the United States, outdoor recreation is an important part of people's leisure activities. Although people may not participate at the same levels in outdoor recreation activities, there is an assumption that all citizens have a legitimate interest in equitable and efficient management of recreation resources on public lands. Since most people are supporting the management of National Forest lands through their federal income taxes, their attitudes about fees require careful and appropriate consideration in the application of new policies toward the regulation and financing of public recreation opportunities.

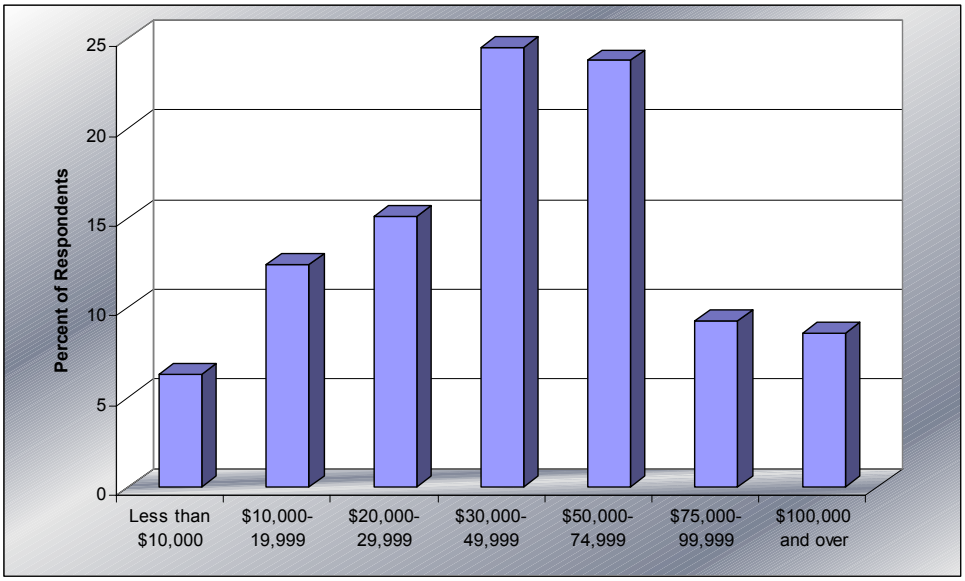
Thus this section reports on the results obtained from the telephone survey of residents in Oregon and Washington. As in the previous section, this section will examine ways to characterize groups of individuals using several measures. Basic demographic data (age, income, employment status, and education level) offer one way of describing the respondents. Since this is a general population sample, we can identify different types of recreational groups beyond National Forest outdoor recreationists. Finally, for those respondents who participated in outdoor recreation (either at National Forest or non-National Forest sites), an analysis of recreational experience preferences (REP) was conducted.

While many of the measures in the telephone survey conducted by The University of Montana's Bureau of Business and Economic Research (BBER) have comparable measures differences in methodology and population sampled require that the results be reported separately. Also, some variables used different measures and are therefore not directly comparable between the telephone and on-site samples. In particular the income and employment categories used by BBER differed from those used by the on-site/ mail-return questionnaire. Because of this limitation generalized comparisons between the results of telephone and on-site/mail-return samples should be approach with caution.

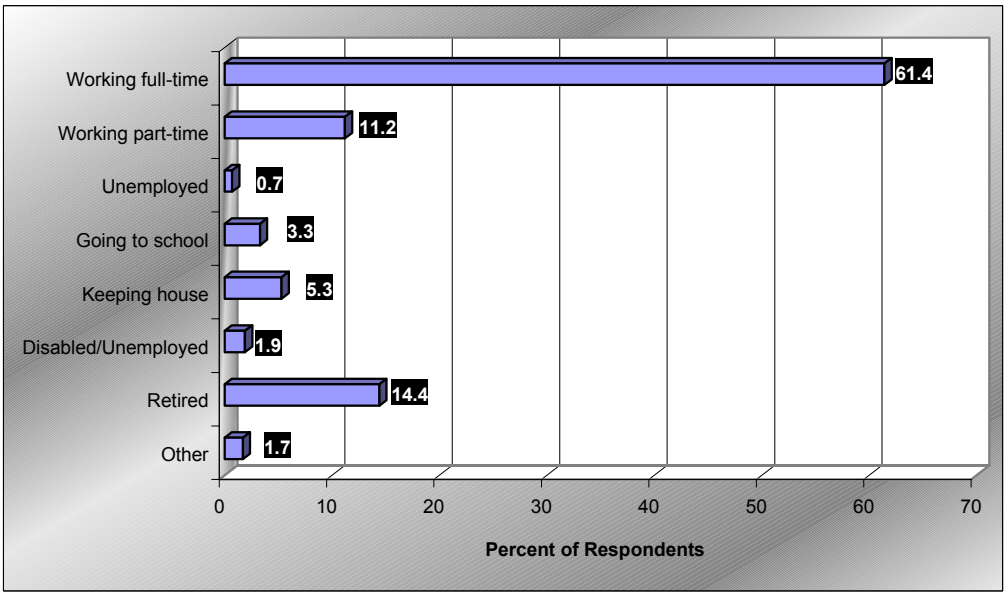
Age, Income, Employment Status, Education Level, and Ethnic and Racial Affiliation (Telephone Survey)

The mean age of respondents was 44 years old, with the oldest at 99 years and the youngest (by survey design) at 18 years. Men comprised 52% of the telephone survey sample and women respondents made up 48%. Most people who were queried over the telephone are employed, with 61% reporting working full time, and 11% working part time. People that are retired made up 14% of the respondents to the telephone survey. The education level within the sample of the general population revealed that fewer that 5% had less than a high school education and a third had at least a bachelors degree from college. Figures twelve through fourteen display the distribution of income, employment status, and education level of the telephone survey respondents.

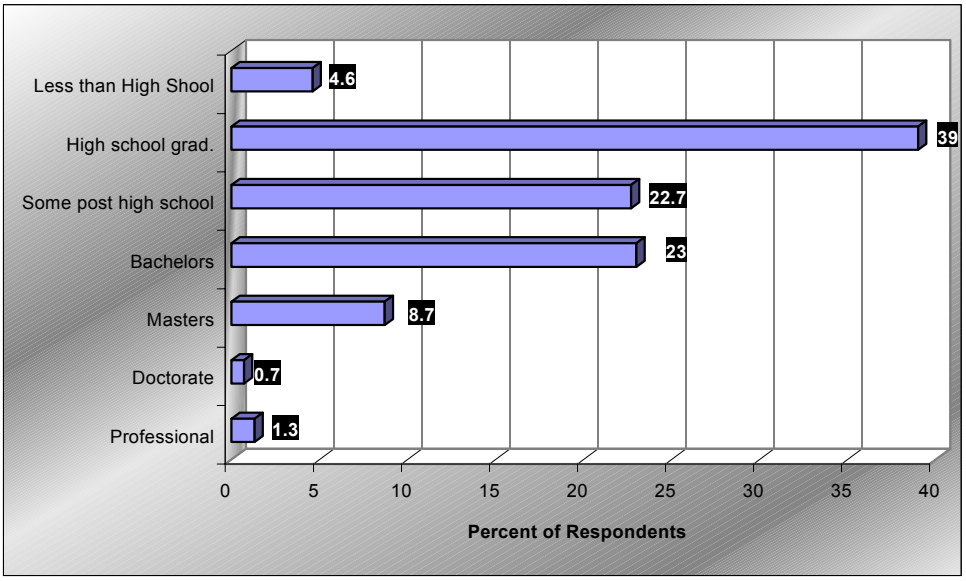
- Figure 12. Income categories of respondents to the general population study of Oregon and Washington (source: telephone survey of Washington and Oregon residents).



- Figure 13. Employment status of respondents to the general population study of Oregon and Washington (source: telephone survey of Washington and Oregon residents).



- Figure 14. Education level for respondents to the general population study of Oregon and Washington (source: telephone survey of Washington and Oregon residents).



Respondents to the telephone survey identified themselves most often with the category "white" (90%). Since the frequency of responses from other racial and ethnic communities was very low (Table 9), and as a means to understanding the different characteristics and opinions of the different race and ethnicity groups in the Pacific Northwest, an additional over-sampling strategy was used during the telephone survey of residents. Five major ethnic groups were identified in the Pacific Northwest region – Asian Americans, African Americans, Hispanics, American Indians, and White Americans. The results of this over-sampling effort are reported in a separate appendix to this report (Appendix X). In this section, however, and in other data analysis of the telephone survey reported in the main body of this report, the over-sampling of race and ethnicity groups are excluded.

- Table 0-8. Racial/ethnic distribution for respondent to the telephone survey (source: telephone survey of Washington and Oregon residents)

	Frequency	Percent
White	1313	89.6
Nat. American	20	1.4
African American	36	2.5
Asian American	27	1.8
Hispanic	60	4.1
Other racial/ethnic	9	.6
Total	1465	100.0
Non-response	211	
Total	1676	

Recreation Participation Categories

To describe the basic level of association of respondents to outdoor recreation on National Forests, the survey instrument attempted to group the population of Oregon and Washington into one of four categories:

1) Non-recreationist – someone that does not participate in leisure activities related to sports, physical exertion, or pleasure-based activities that generally occur out-of-doors;

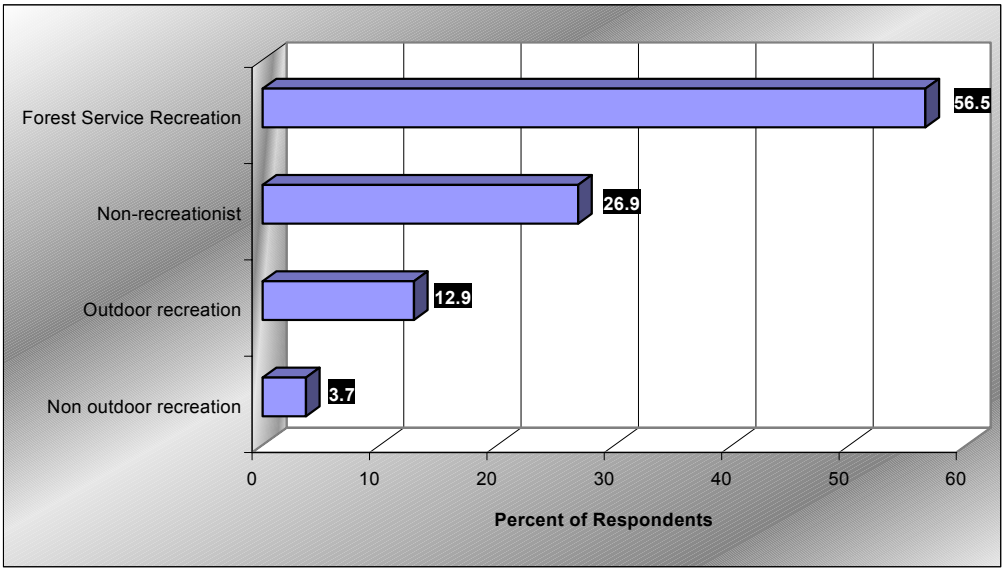
2) Non-outdoor recreationist -- A person who participates in recreational activities or sports, but does not do so in a natural setting. People who like to walk in town, go bowling, swim in a city pool, visit museums or parks, and even go golfing were included in this category;

3) Outdoor recreationists -- This group includes people that go outdoors into natural settings, and participate in a number of potential activities – hiking, sightseeing, birdwatching, camping, hunting, swimming, etc. They are distinct from the final group, only by the place where they recreate; and

4) Forest Service recreationists -- This group, like the third group, participates in outdoor activities in natural settings, but identified themselves as having visited a National Forest within the last twelve months.

Results of the survey regarding the type of recreationist were somewhat surprising. A considerable proportion of the respondents, close to 27%, indicated that they were non-recreationists. This stands in contrast to another recent study with data from 1994-1995 (Cordell, 1999), which identified that 94.5% of the national population had participated in one or more outdoor recreation activities in the previous 12 month period. Although the questions were asked somewhat differently in each of the two studies, it makes one wonder whether people are interpreting outdoor recreation differently or if there is some profound recent change in behavior. In addition, less than 4% of respondents in the 94-95 study fell within the second category (non-outdoor recreationists). This suggests the possibility of confusion between respondents and interviewers of the type of activities that could be considered as outdoor recreation. Figure 15 displays the results of the types of recreationists from the telephone survey.

• Figure 15. Distribution of respondents to the general population survey of Oregon and Washington based on identified recreation category (source: telephone survey of Washington and Oregon residents)



Regardless of the uncertainty about the fitting of people within non-recreationist or recreationist categories, those that do indicate an interest in outdoor recreation demonstrate an affinity for visiting National Forests. Of the total sample, 56.5% indicated that they had recreated on National Forests in the past year. This closely matches the Forest Service data from the mid-1990's that shows 50% percent of the population of the Pacific Northwest participated in outdoor "adventure" activities (Burchfield & Miller, 2000). Yet in this case, 80% of respondents who indicated they had participated in outdoor recreation during the last twelve months also reported having visited a National Forest in the during the same time period. National Forests appear to play a very important role in the outdoor recreation experience in Oregon and Washington.

Results that highlight the significance of National Forests must be tempered somewhat by the finding from a follow-up question to those who indicated that they had visited National Forests. Over 85% of those who claimed to have visited a National Forest were either unsure or very unsure if they had been within a National Forest while they were recreating. In other words, it appears evident that people either pay little attention to land ownership, or they can't easily figure out exactly who is providing the outdoor recreation opportunity.

The Recreational Experience Preferences (REP) for Telephone Survey Respondents

Respondents to the telephone survey identified as either "outdoor recreationists" or "Forest Service recreationists" (as defined above) were characterized by their Recreational Experience Preferences (REP). Using a similar factor and cluster analysis technique as was employed for the on site/mail-return questionnaire, four distinct clusters of visitors were identified by their experience preferences. These groups are entitled:

1) Individuals seeking personal growth or relaxation

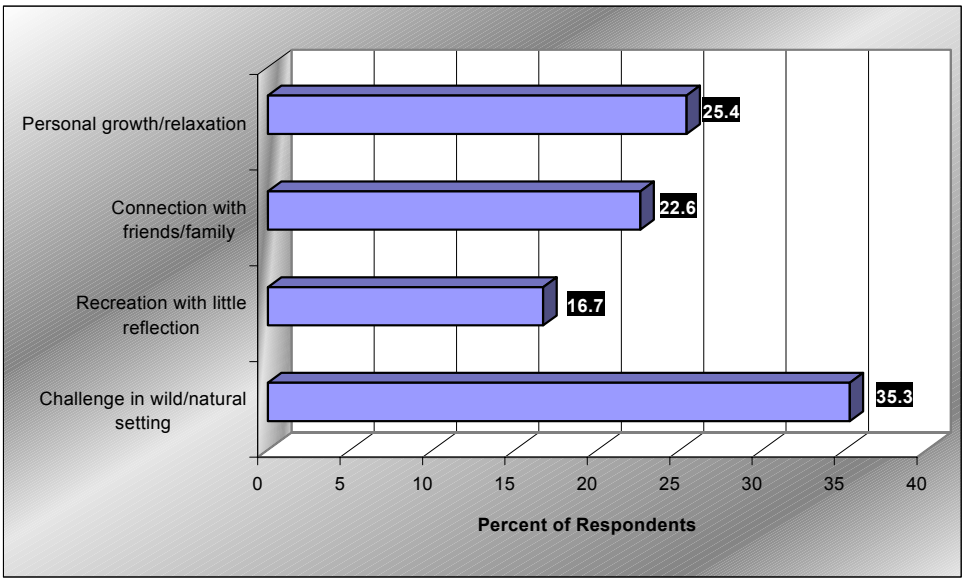
2) Individuals seeking connections with friends or family.

3) Individuals that seek a challenge in a natural or wilderness setting

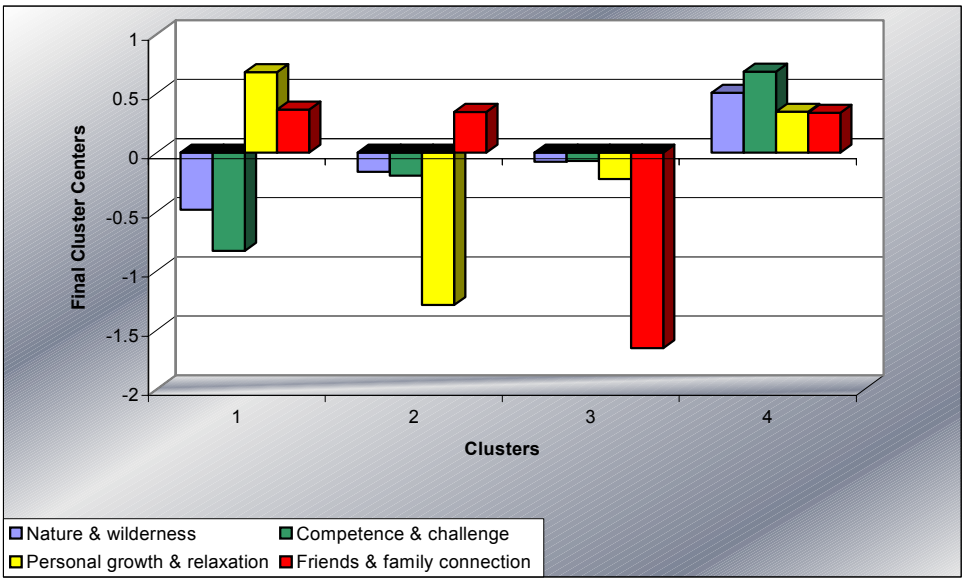
4) Individuals that recreate with greater spontaneity than reflection.

Figure 16 shows the distribution of respondent with respect to the four clusters. Figure 17 displays the Recreation Experience Preference factor score loadings on each of the four clusters[5].

Figure 16. Percent of respondents within Recreational Experience Preference clusters – Oregon and Washington general population survey (source: telephone survey of Washington and Oregon residents).



- Figure 17. Comparison of cluster centers for Recreational Experience Preference (REP) factor scores for respondents to the general population survey of Oregon and Washington (source: telephone survey of Washington and Oregon residents).



[5] Detailed tables of the factor and cluster solutions are offered in the technical appendices of this report.

The first group, those that seek personal growth or reflection, represent close to a quarter of the total respondents. They may be willing to strengthen the bonds of friends and family, but are not as concerned about their own development of competence in the wild or of a challenge of a wilderness experience. The second group, of a slightly smaller proportion than the first, are highly focused on their connection to friends and family and less concerned with other key factors of the outdoor recreation experience, such as opportunities for purely personal growth. The group that seeks a challenge in a wilderness setting reflects more generalist attitudes in the experience preferences, willing to pursue this in natural, wilderness-type settings, or in the context of either personal growth or with connections with others. This group has the largest proportion of the cluster membership at slightly above a third of the total. The final group, the smallest of the four, appears unassociated with the other factors that have been important to the other groups, and they proceed with recreation activities for reasons beyond simple categorization.

Attitudes of the General Recreating Public in the Pacific Northwest – Findings From the Telephone Survey

A common criticism of survey research in recreational settings is that on-site samples, by definition, measure the attitudes of current users. Respondents who evaluate conditions as unfavorable may be displaced and thus excluded from analysis (Anderson, 1980; Anderson & P.J., 1984; Miller et al., 1996; Schneider & Hammitt, 1995; Shelby, Bregenzer, & Johnson, 1988). An advantage of the methodology used in this study is the ability to examine the attitudes of both users and non-users. Overviews of these attitudes are presented in this section.

Acceptable Fee for Activity Charges

The general population of Oregon and Washington indicated a willingness to pay recreational user fees for certain activities and in certain situations. Respondents were presented with a list of 24 activities, and asked how acceptable it would be to charge fees for those activities on the national forests in Oregon and Washington. Responses were on a five-point scale, with one being "completely unacceptable" and five being "completely acceptable."

There was a strong consensus among respondents regarding the acceptability of certain recreational fees. Regardless of Forest Service or non-Forest Service user type, income level, or recreational experience preference (REP), people felt it would be acceptable for the Forest Service to charge fees for particular activities. That is, there are no significant differences between groups, using user type, income level or REP as the independent variable. Activity charges that a clear majority of respondents would accept include: "RV camping," "camping at campgrounds with facilities," "off-highway vehicle use," "collecting forest products," and "boat dock or boat ramp use."

All respondents regardless of user type income or REP also agreed on the unacceptability of some activity fees. These unacceptable activity fees include: "stopping at scenic overlooks," "swimming," "picnicking," "driving on Forest Service roads," and "parking anywhere on a National Forest." Tables Ten and Eleven show the activities for which the application of fees would be relatively unambiguously acceptable and unacceptable, respectively and the mean rating on the fee acceptability scale. For a variety of other activities, however, people were more ambivalent about the acceptability of fees. Those activities, and the mean ratings of fee acceptability, are shown in Table Twelve.

• Table 0-1. Mean acceptability for selected activity charges – activities rated *acceptable* for fees (source: the telephone survey of Washington and Oregon residents)

	Mean	Std. Dev.
RV camping	4.36	1.11
Camping at campgrounds with facilities	4.28	1.07
Off-highway vehicle use	3.59	1.57
Collecting forest products	3.54	1.47
Boat dock or boat ramp use	3.38	1.43

- Table 0-2. Mean acceptability for selected activity charges – activities rated *Un-acceptable* for fees (source: the telephone survey of Washington and Oregon residents)

	Mean	Std. Dev.
Parking anywhere on a NF	1.89	1.25
Driving on FS roads	1.77	1.24
Picnicking	1.77	1.21
Swimming	1.65	1.13
Stopping at scenic over-looks	1.22	0.72

- Table 0-3. Mean Acceptability for selected activity charges – Activities for which there is ambivalence as to the acceptability of fees (source: the telephone survey of Washington and Oregon residents)

	Mean	Std. Dev.
Mountain biking	2.86	1.59
Hot springs use	2.82	1.44
Horseback riding	2.72	1.49
Interpretive programs	2.67	1.44
Recreating in designated wilderness areas	2.50	1.39
Visitor centers	2.39	1.48
Climbing	2.38	1.49
Rafting, canoeing, or kayaking	2.37	1.46
Parking at trailheads	2.33	1.42
Camping at places no improvements	2.33	1.26
Backpacking	2.29	1.38
Day hiking off trails	2.22	1.46
Day hiking on trails	2.07	1.33
All activities, all places	1.91	1.08

Desirability/Performance Evaluation of Facilities and Services

An almost inevitable connection in the minds of users will be the evaluation of fees and the evaluation of facilities and services offered in recreation areas. For this reason, the development of a baseline evaluation of the facilities and services offered at recreation sites is essential. Respondents rated the desirability of selected facilities and services and rated the performance of the Forest Service in providing those facilities and services.

All respondents in the general population study displayed a strong symmetry in their evaluation of desirability and importance. That is, highly desirable facilities and services also received high in performance ratings. Conversely, less desirable elements received low performance ratings.

As detailed in Table 13, most of the attributes examined were desirable to respondents. Respondents indicated that they desired clear and informative information in the form of signs, maps, and interpretive personnel. Well-maintained trails and facilities (particularly

restrooms) were also very desirable attributes. Services and accommodations for people with special needs or physical disabilities were less desirable.

Respondents also made a distinction between the types of desirable staff presence. Respondents want staff present to provide information in a helpful and useful fashion but were less concerned about having personnel present to insure security. This rating is somewhat incongruous because respondents also indicated that a low risk of vandalism or theft to vehicles is important.

- Table 0-4. Mean desirability rating for recreation facilities and services. Rating on a five-point scale from 1 (not at all desirable) to 5 (extremely desirable) (source: the telephone survey of Washington and Oregon residents).

	N	Mean	Std. Dev.
Clear and informative signs	473	4.00	1.07
Trails are well maintained	639	3.99	1.08
Maps of the area easily available	473	3.98	1.20
Availability of multilingual services	659	3.98	1.06
Toilets that do not smell bad	470	3.95	1.27
Personnel who are friendly and helpful	629	3.93	1.28
Low risk of vandalism or theft to vehicles	475	3.92	1.25
Trails are well signed	632	3.86	1.13
Staff available to provide information	648	3.80	1.26
Useful information about recreation opportunities	486	3.72	1.20
Conveniently located restrooms	479	3.69	1.36
Sufficient number of trails	610	3.69	1.27
Availability of emergency services	444	3.48	1.41
Clean toilets	461	3.47	1.31
Personnel who make the public feel welcome	614	3.46	1.28
Assistance for people with special needs	541	3.35	1.42
Adequate presence of uniformed staff to feel secure	463	3.02	1.38
Accessibility for people with disabilities	513	2.08	1.33

For the most part, respondents indicated that the Forest service performed well at providing the most desirable facilities and services. Table 14 reveals a very similar ranking of high and low performance on provision of these facilities and services. Specifically, the Forest Service performs well in the provision of information and critical maintenance. Performance is lower for facilities and services related to accessibility for people with disabilities, security, and safety.

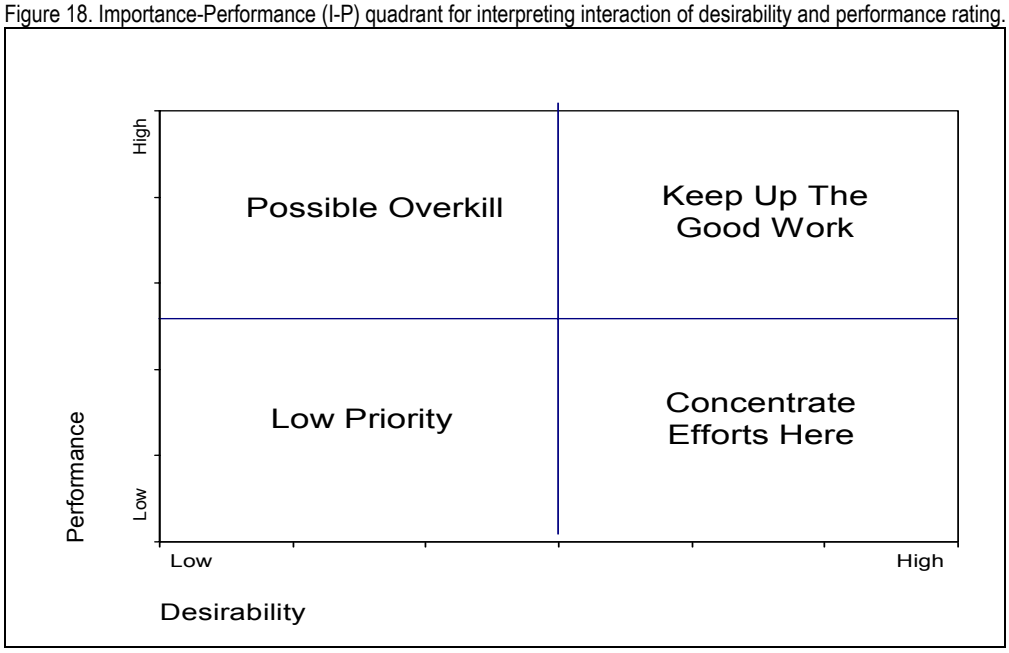
Table 0-5. Mean rating of National Forest Service performance in providing recreation facilities and services. Rating on a five-point scale from 1 (not at all) to 5 (extremely) (source: the telephone survey of Washington and Oregon residents).

	N	Mean	Std. Deviation
Clear and informative signs	456	4.00	.98
Trails are well maintained	619	3.90	1.07
Maps of the area easily available	458	3.79	1.26
Availability of multilingual services	648	3.78	1.07
Useful information about recreation opportunities	468	3.64	1.15
Low risk of vandalism or theft to vehicles	440	3.60	1.28
Trails are well signed	612	3.59	1.14
Conveniently located restrooms	475	3.57	1.34
Staff available to provide information	601	3.54	1.26
Sufficient number of trails	584	3.52	1.30
Toilets that do not smell bad	453	3.49	1.26
Clean toilets	298	3.39	1.32
Personnel who are friendly and helpful	590	3.37	1.28
Availability of emergency services	384	3.36	1.33
Personnel who make the public feel welcome	577	3.27	1.32
Adequate presence of uniformed staff to feel secure	429	3.17	1.37
Assistance for people with special needs	442	3.04	1.36
Accessibility for people with disabilities	362	2.30	1.36

An Importance-Performance (I-P) analysis was applied to these ratings. This technique was originally designed as "an easily applied technique for measuring attribute importance and performance that can further the development of effective marketing programs" (Martilla & James, 1977). As applied to this context the goal of the I-P analysis is to provide information that can help improve the quality of products and services by identifying those areas that need further attention by providers. Fundamental to this is the identification of products that are desirable to users but that are evaluated negatively in terms of performance. Thus, facilities and services that are ranked highly desirable but low in performance are those that need immediate attention. Another important outcome of I-P analysis is the identification of facilities and services that are viewed as superfluous to overall satisfaction of recreationists. This would be apparent in situations were users rank facilities and services as undesirable but of high quality. In this instance, effort and resources have been directed into things that users do not want. This interplay of evaluations of desirability and performance can help to make the delivery of facilities and services efficient.

The results of this analysis are described in a two dimensional grid with four possible quadrants. In applications of the I-P technique the quadrants have been typically labeled: "concentrate efforts here, keep up the good work, possible overkill, and low priority" (Hammitt, Bixler, & Noe, 1996; Havitz, Twaynam, & DeLorenzo, 1991). Figure 18 portrays the nature of these quadrants relative to evaluations of desirability and performance. When the mean responses for desirability and performance for each facility and service are plotted, these quadrants provide the basis for interpretation.

• Figure 18. Importance-Performance (I-P) quadrant for interpreting interaction of desirability and performance rating.

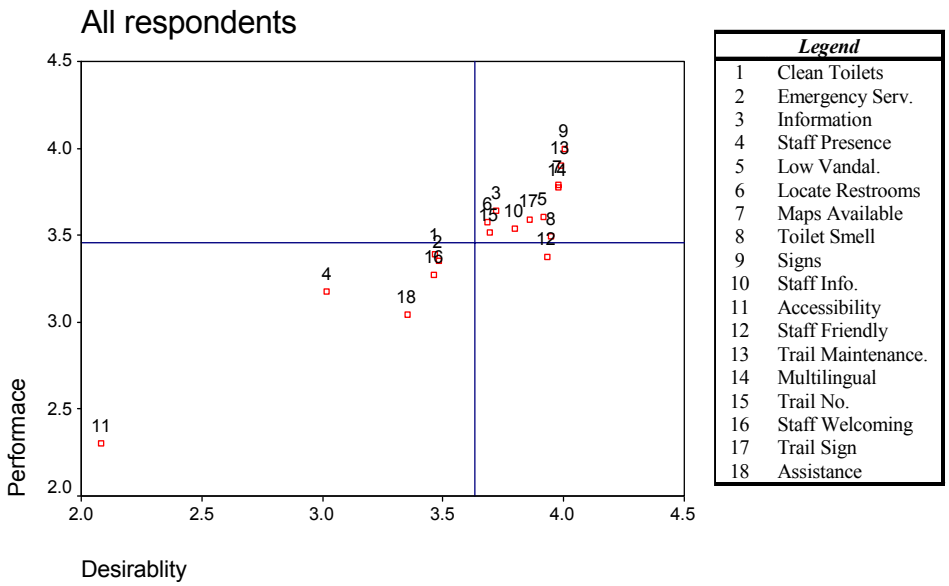


An important element in this analysis is the position of the reference lines. The rule used in this analysis is to place the lines at a point that corresponds to the mean of the means for all evaluations. The assumption behind this decision is that evaluations of desirability and performance are best understood in the context of other users evaluating the same resources. This assumption will highlight the ability to discriminate between users based on their evaluation.

Using this technique, a separate I-P analysis were performed on both "Forest Service recreationists" and "outdoor recreatioists" (as defined in the previous chapter). There were no identifiable differences between these two sub-populations in terms of their evaluation of desirability and performance. The symmetry of these ratings is evident in the plotting of mean responses (Figure 19).

The only attribute that fell within the lower right quadrant was "Presence of staff who are friendly and helpful". This area is one that might require a concentration of effort. However, the evaluations of this element are close to the mean and therefore do not represent a particularly strong indicator of an item with high desirability and low performance.

• Figure 19. I-P analysis for all respondents to the general population study. Mean desirability and performance ratings for selected facility and service items (source: the telephone survey of Washington and Oregon residents).



General Attitudes Toward Fees

In addition to attitudes regarding specific activity fees and evaluations of facilities and services, respondents offered their view on several fee attitude statements. These statements offered a range of sentiments supporting or opposing fees, corporate sponsorship, and possible consequences of fees such as over commercialization. Table 15 details the full statements presented to respondents and the mean response (on a 1 to 5 scale from "strongly disagree" to "strongly agree").

Respondents to the general population survey were willing to accept a limited role for corporate sponsorship of public recreation. That is, donations from corporations, if they are relied upon as a funding mechanism should be done without recognition of the corporate sponsor.

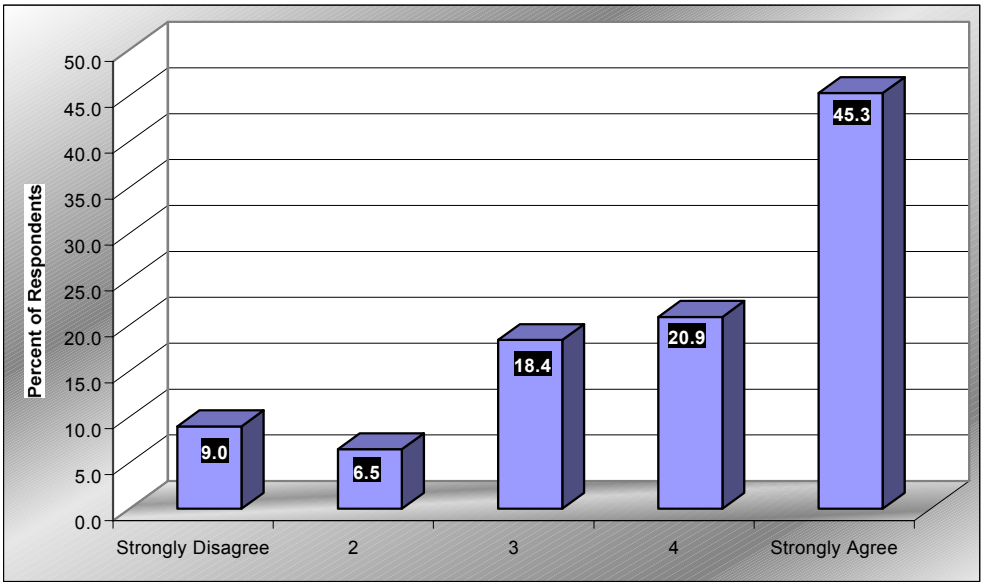
Table 0-6. Mean response to general fee statements (full sample). Responses were on a 1 to 5 scale from "strongly disagree" to "strongly agree" (source: the telephone survey of Washington and Oregon residents).

	N	Mean	Std. Dev.
It is okay for the Forest Service to accept donations from corporations, but corporations should not be recognized as sponsors	1105	4.00	1.33
Charging fees on National Forests will make it so that only the rich can use the best areas.	1110	3.87	1.30
Charging fees helps the Forest Service do a better job at protecting the land while providing recreational opportunities.	1086	3.56	1.52
There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay.	979	3.41	1.42
There is nothing wrong with charging fees to recreate on National Forests.	979	3.14	1.45
I would be willing to pay a little extra on my fee to help cover the cost for people who can't afford it.	977	3.11	1.55
I am willing to pay fees but I don't think that I should have to.	1108	2.93	1.53
Charging fees on National Forests will lead to over-commercialization.	1117	2.62	1.53
I get less satisfaction from recreating on National Forests if I pay a fee to use an area.	1095	2.50	1.44
I can't afford to pay a fee to recreate on National Forests.	976	2.19	1.49
People should be able to recreate on National Forests even if they can't afford to pay the fee.	988	2.16	1.43
Corporations should be allowed to sponsor recreation sites or facilities on National Forests with few or no restrictions	984	2.12	1.45
If someone can't afford to pay the fee, they shouldn't use the National Forest.	977	1.96	1.36

The majority of respondents indicated agreement with the statement that fees on National Forest lands will have consequences for universal access to public lands. Specifically 66.2% of respondents agreed with the statement that these fees would make it so that only the rich can use the best areas. Figure 20 shows the distribution of responses to this statement.

This perception not withstanding, respondents to the general population study felt that fees would provide a benefit to the protection of natural resources. Also, there was a recognition that there are times and places were it is okay to charge a fee, even if that fee was more than the individual was able to pay.

- Figure 20. General population agreement or disagreement with the statement, "Charging fees on National Forests will make it so that only the rich can use the best areas" (source: the telephone survey of Washington and Oregon residents).



Significant differences were observed in responses to these fee statements based on both the household income level and the recreation patterns of respondents. Table 16 displays which statements had statistically significant differences based on a chi square analysis of responses (chi square sig. <= .05). A chi square analysis was selected as the appropriate level of statistical analysis for comparing categorical data. These differences are examined in greater detail in the next section of this report. Significance levels in red indicate comparisons where too few responses were available for confident statistical comparison. Thus, these differences should be approached with caution.

- Table 0-7. Summary of all Chi Square comparisons for all respondents. Red "sig." Indicates comparisons that had cells with expected value less than five. These analyses have a lower ability to identify significant differences and therefore approached with caution (source: the telephone survey of Washington and Oregon residents).

	Independent Variables	
General Fee Attitude Statements	***Income***	***Type of Recreation.***
OK FS accept donations from corporations not sponsors	sig	sig
Fees on NF make it so only rich can use best areas		sig
Charging fees helps the FS do better protecting the land	sig	
Times and places where a fee to use NF okay,	sig	sig
Nothing wrong with charging fees to recreate NF	sig	sig
Pay extra help cover the cost for people not afford it		
I am willing to pay fees, but not think that I have to	sig	sig
Fees on NF will lead to over-commercialization	sig	sig
I get less satisfaction recreating on NF if I pay a fee	sig	
I can not afford to pay a fee to recreate on NF	sig	sig
People recreate on NF if they can not afford fee		sig
Corporations sponsor recreation sites on NF with few restrictions	sig	sig
If someone can not afford not use the NF		sig

Telephone Survey Response to General Fee Attitude Statements by Household Income Category

Individuals from the lower income category tended to respond to fee statements in a way that indicates less support for fees than respondents from the highest income categories. Interestingly, the lower income respondents tended to have a more sanguine view of both the role and the efficacy of corporate sponsorship of recreation areas[6].

Respondents from the lowest income category expressed less support for fees because of perceived consequences to both the characteristics of the recreational experience and financial constraints. Figures 21 and 22 detail a comparison of fee attitude measures that reveal significant differences based on household income category.

Regarding consequences to recreational experience, the lowest income category respondents were more likely to disagree with the statement that fees will help the Forest Service to "do a better job at protecting the land while providing recreational opportunities". In addition, lower income respondents were more likely to feel that fees will lead to "over-commercialization" of recreational areas. Similarly, low-income respondents were more likely to agree that paying fees makes their experience less satisfying.

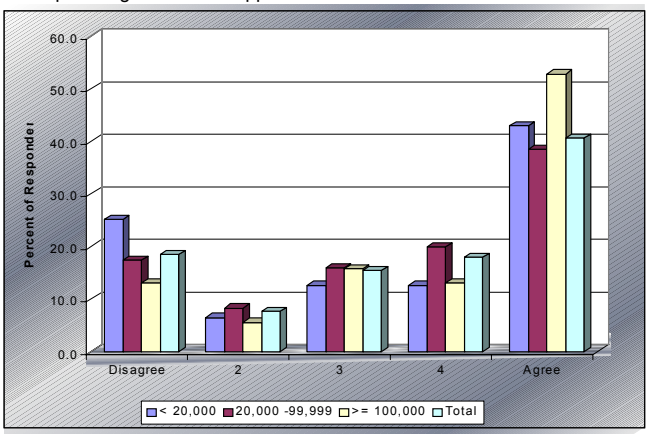
In terms of personal constraints to paying recreational fees, lower income respondents were more likely to state that they could not afford to pay a fee. However, observing this pattern of response provides some evidence of internal validity for these measures of fee attitude.

Respondents from higher income categories were generally more supportive of fees than other respondents, but were less accepting of unrestricted corporate involvement. High income respondents agreed with the statements that there are times and places "where a fee is ok, even if that fee is more than I personally could afford to pay", and that "there is nothing wrong with charging fees to recreate on National Forest lands". These same respondents were more likely to disagree with the statement that "corporations could sponsor recreation sites in National Forests with few restrictions". Low income respondents were more likely to agree that, if corporate sponsorship occurs, those corporations should not be identified as sponsors.

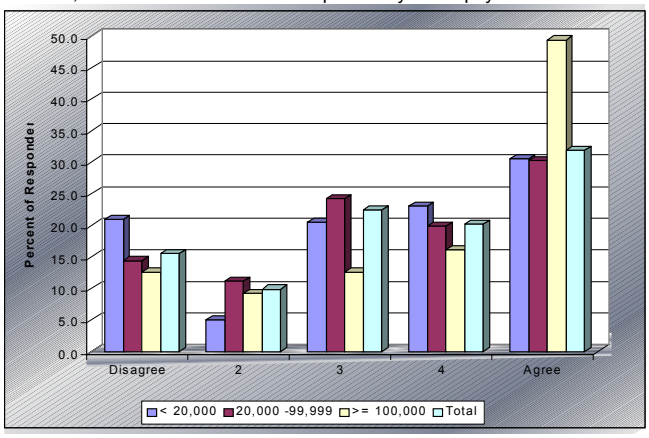
[6] In this analysis the original income categories were collapsed into three large categories. This collapsing of categories was done to allow for a chi square analysis of differences between income level regarding general fee attitude statements. Without combining the income categories analysis of potential differences was impossible since many of the cell in a comparison has too few observations for reliable analysis. It must be made clear, however, that collapsing these categories into large and non-standard economic categories looses detail and limits possibilities for comparison. Thus these differences should be approached with caution.

• Figure 21. Comparison of fee attitude statements by participants in the general population study (source: the telephone survey).

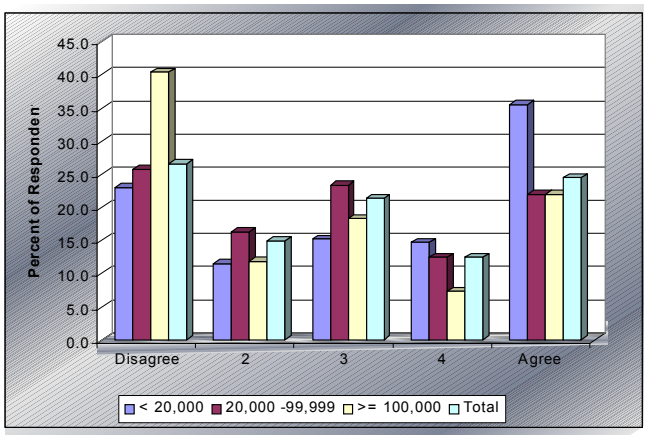
Charging fees helps the Forest Service do a better job at protecting the land while providing recreational opportunities.



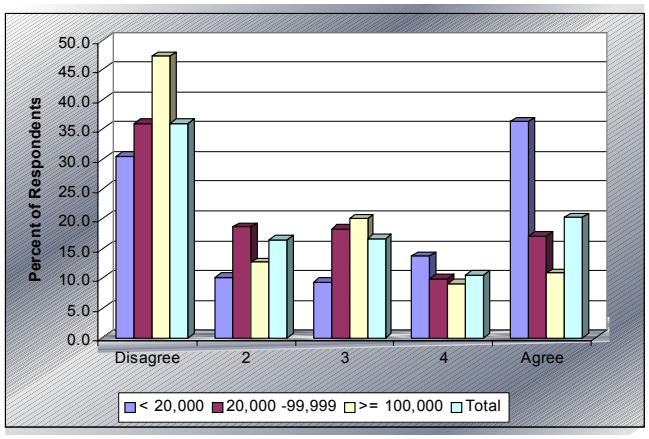
There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay.



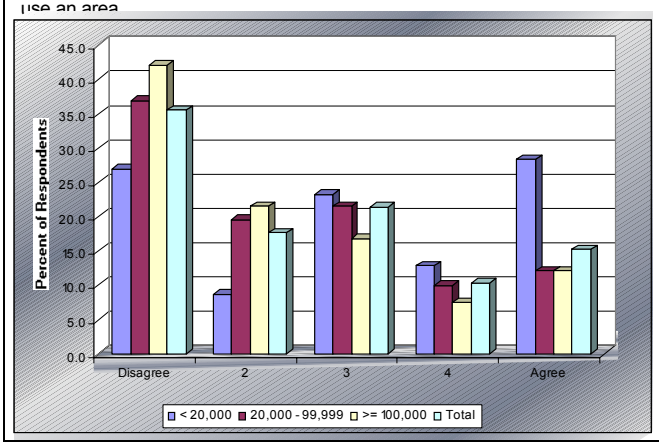
I am willing to pay fees but I don't think that I should have to.



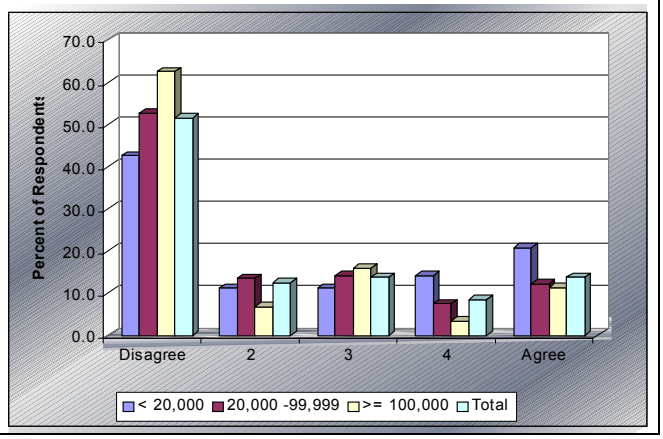
Charging fees on National Forests will lead to over-commercialization.



I get less satisfaction from recreating on National Forests if I pay a fee to use an area

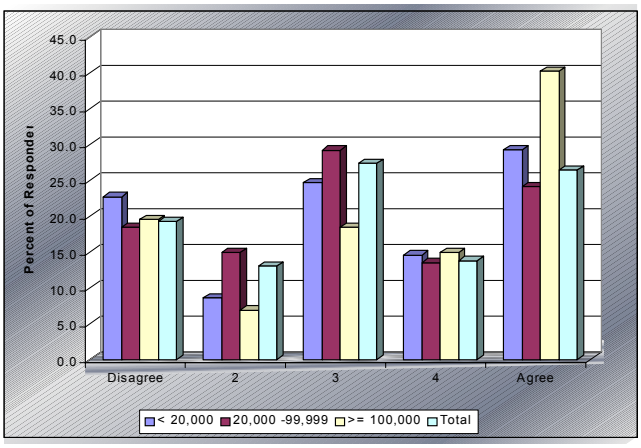


I can't afford to pay a fee to recreate to National Forests.

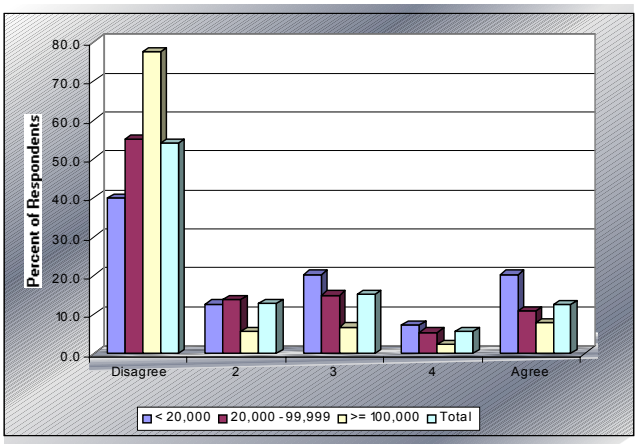


• Figure 22. Comparison of fee attitude statements by participants in the general population study (Continued).

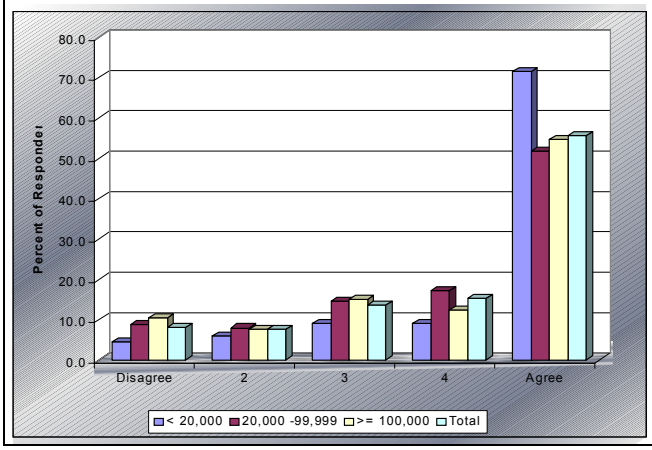
There is nothing wrong with charging fees to recreate on National Forests.



Corporations should be allowed to sponsor recreation sites or facilities on national forests with few or no restrictions.



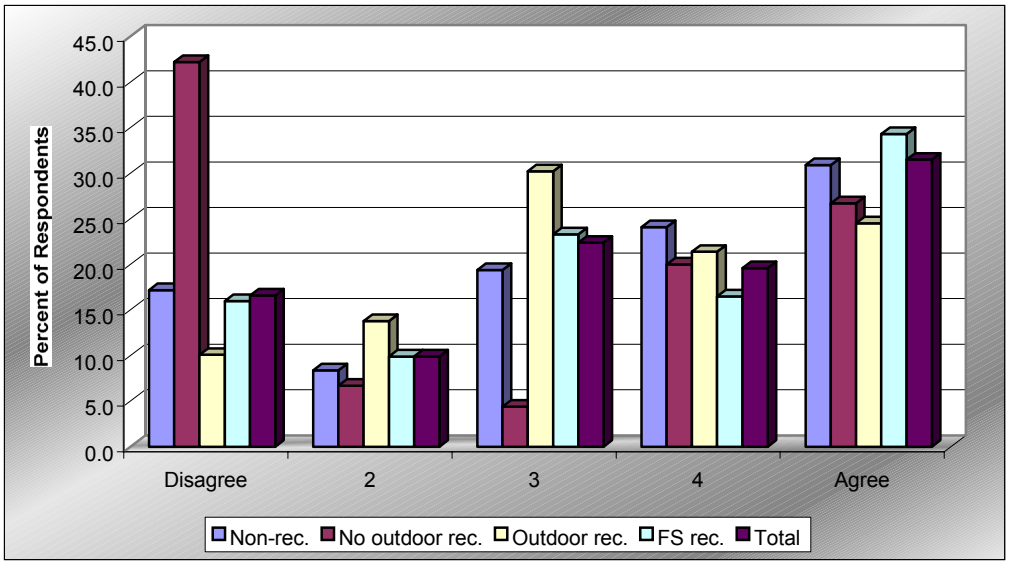
It is okay for the Forest Service to accept donations from corporations, but corporations should not be recognized as sponsors.



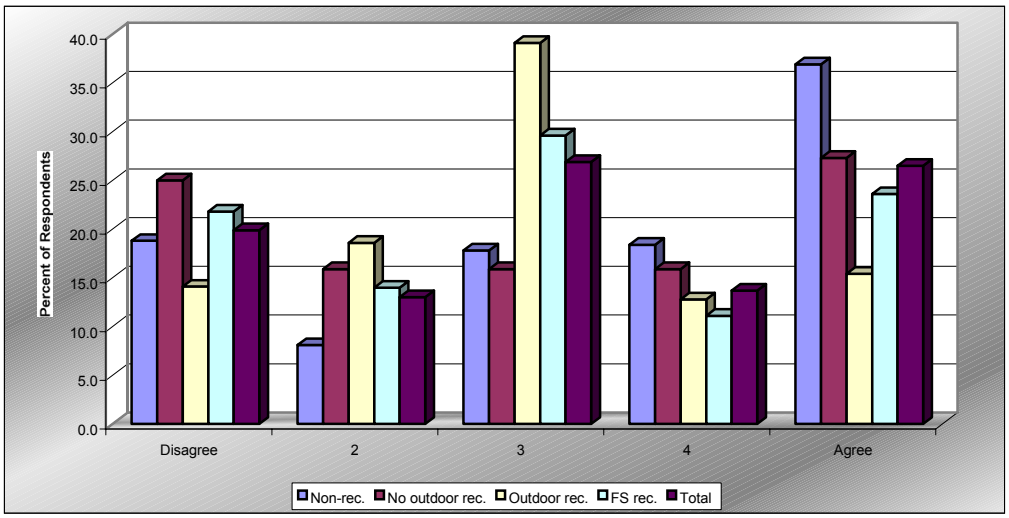
Response to General Fee Attitude Statements by Type of Recreationist

Respondents that engage in recreational activities, but not outdoor recreation activities ("No Outdoor Rec."), were more likely than other types of respondents to disagree with the statement that "there area times and places where a fee for use of National Forests is acceptable" (Figure 23). Respondents characterized as "non-recreationists" were more likely than other respondents to agree with the notion that "there is nothing wrong with charging fees to recreate on National Forests". In contrast, non-National Forest outdoor recreationists, and Forest Service recreationists were more ambivalent about this statement (Figure 24).

- Figure 23. Percent of respondents indicating their agreement or disagreement with the statement, "There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay" (source: the telephone survey of Washington and Oregon residents).



- Figure 24. Percent of respondents indicating their agreement or disagreement with the statement, "There is nothing wrong with charging fees to recreate on National Forests" (source: the telephone survey of Washington and Oregon residents).

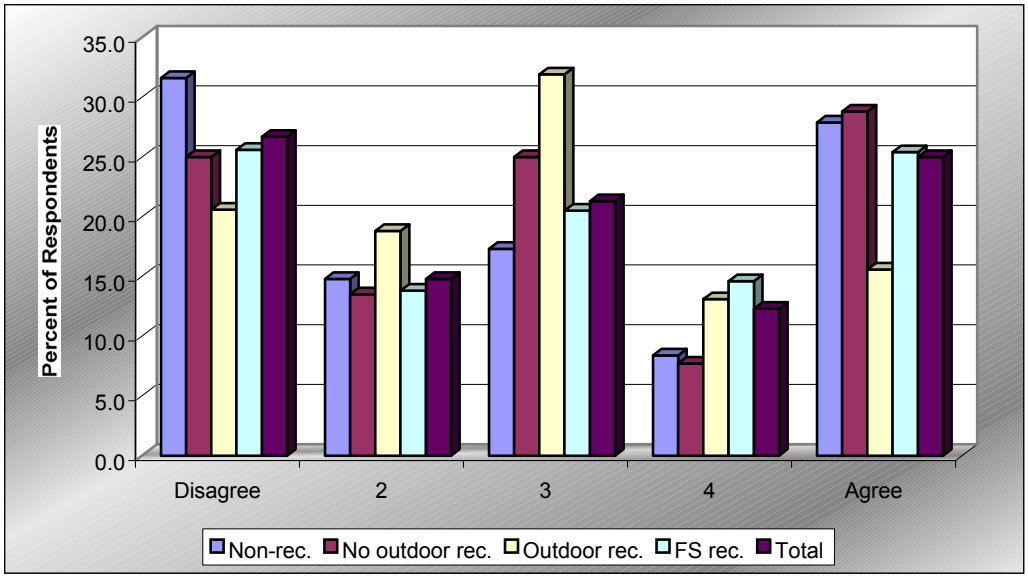


Non-National Forest recreationists were less likely than other respondents to agree with the general willingness to pay question (Figure 25). The major difference observed in this comparison is in the middle category of the acceptance scale. Thus, for these outdoor recreationists they neither strongly support nor strongly reject the notion of paying fees for recreation on National Forest lands.

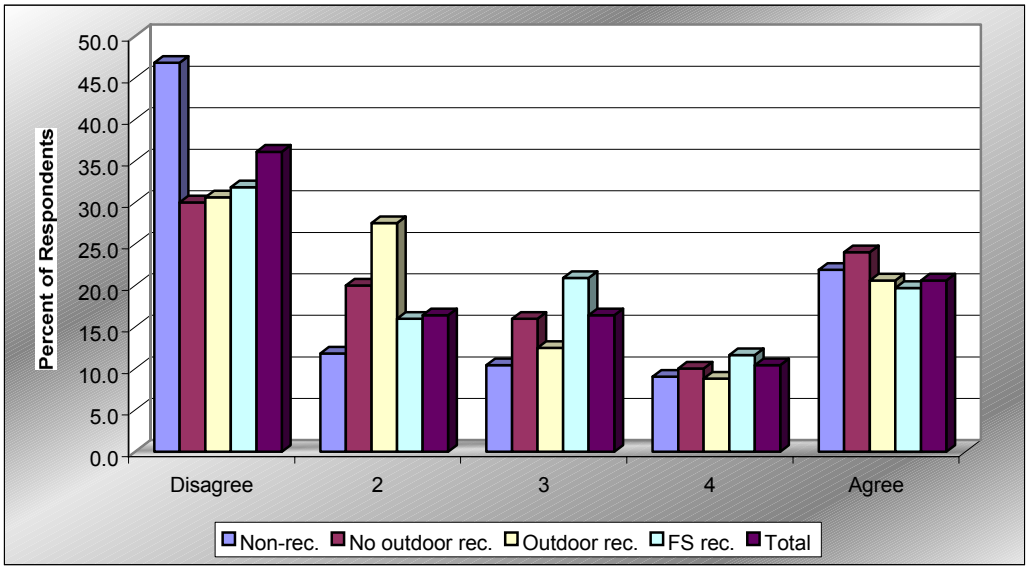
Non-recreationists, however, do tend to reject a willingness to pay but it appears that this rejection is not based on any notion that it will change the level of commercialization of the site (Figures 25 & 26). It is possible that this rejection of fees is associated with people who are not engaging in recreational activities and who may feel unlikely to begin

engaging in them. Thus, they may be unwilling to entertain the notion of paying a fee for a set of activities they have no interest in.

- Figure 25. Percent of respondents indicating their agreement or disagreement with the statement, "I am willing to pay fees but I don't think that I should have to" (source: the telephone survey of Washington and Oregon residents).



- Figure 26. Percent of respondents indicating their agreement or disagreement with the statement, "Charging fees on National Forests will lead to over-commercialization" (source: the telephone survey of Washington and Oregon residents).

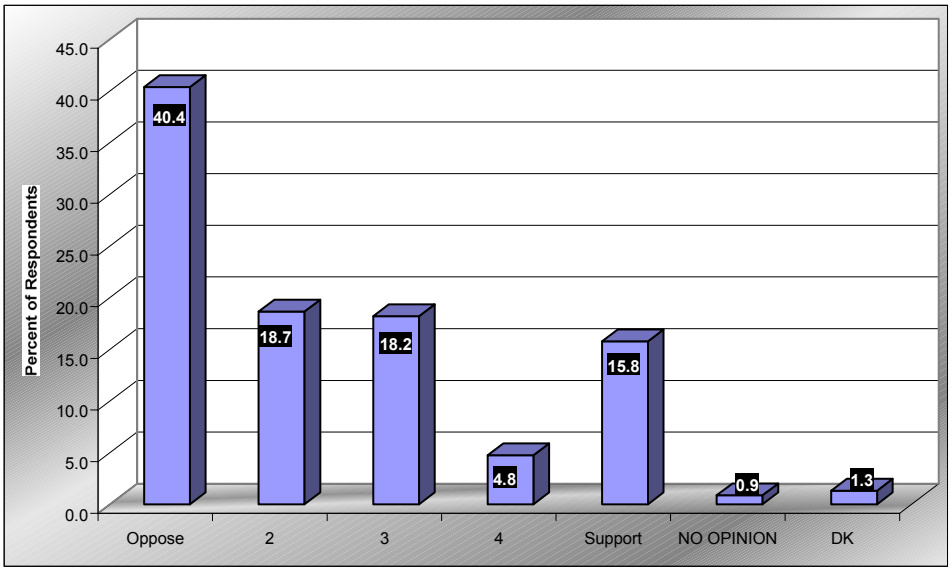


Response to Fees as a Management Option

Another way that general attitudes toward fees was measured was by the examination of reaction to a single anti-fee statement. This statement was offered within a particular context, namely, support or opposition to specific management policy options. The notion here is that respondents might respond differently to fees as a management option versus personal evaluation of participation in a fee program. That is, fees might be acceptable in theory but unacceptable if I must pay them.

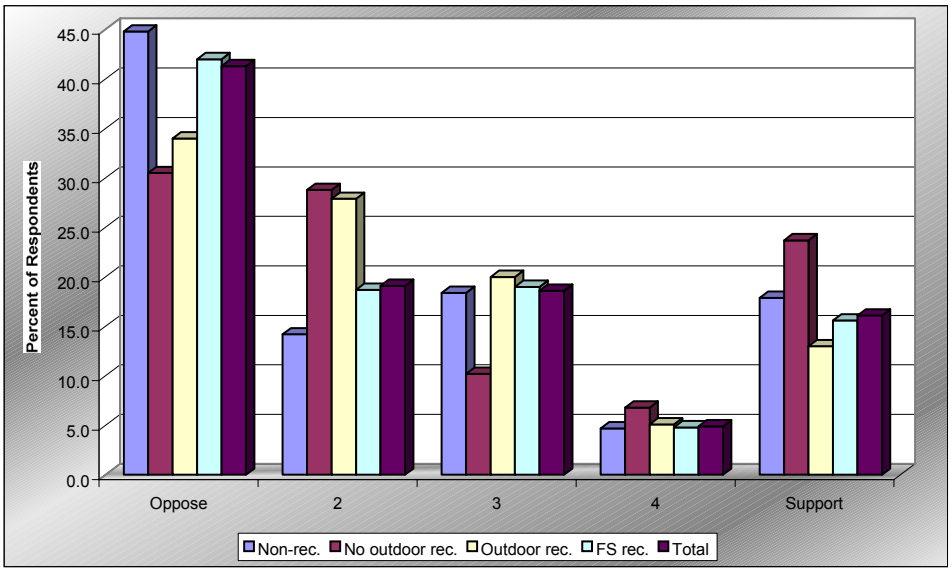
Respondents were asked to indicate their support or opposition to a management policy that does not allow for "any fees for recreating on National Forest lands". The majority of respondents (59%) rejected the notion that fees should be eliminated as a management option (Figure 27). Twenty-one percent of respondents felt that fees should not be an option available to managers of National Forest lands.

- Figure 27. Percent of respondents indicating opposition or support to the statement "Do not charge any fees for recreating on National Forest Lands" (source: the telephone survey of Washington and Oregon residents).



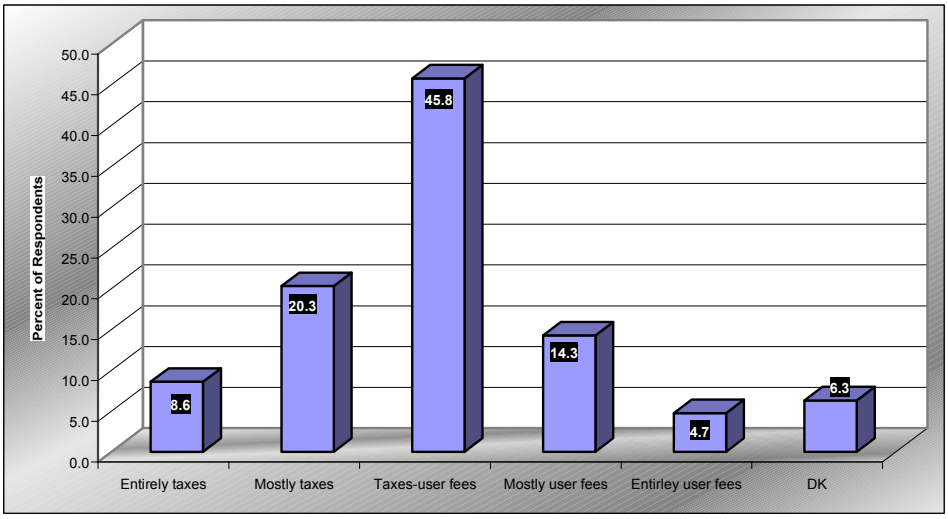
Response to this statement was largely consistent among the different categories of respondents examined. The only significant difference that was observed was between categories of recreation types (Figure 28). Individuals who are not engaged in outdoor recreation activities, or who are not recreating at all, are more likely than other respondents to agree that fees should not be charged to recreate on National Forest lands. As in other observed differences by recreation type this opposition may have more to do with the saliency of fees than a particular opposition to fees as a management option.

• Figure 28. Percent of respondents indicating their support or opposition to charging fees on National Forest lands by type of recreationist (source: the telephone survey of Washington and Oregon residents).



Another measure of support or opposition for recreational fees was obtained by asking respondents to make a trade-off decision between taxes and recreation fees. Respondents were asked to indicate their views regarding "the proper balance between taxes and user fees for generating public forest areas operating funds". By selecting one of six categories, participants identified their preference that revenue should either be "entirely from taxes", "entirely from user fees" or some mix of the two. Figure 29 displays the distribution of responses to this question from all respondents.

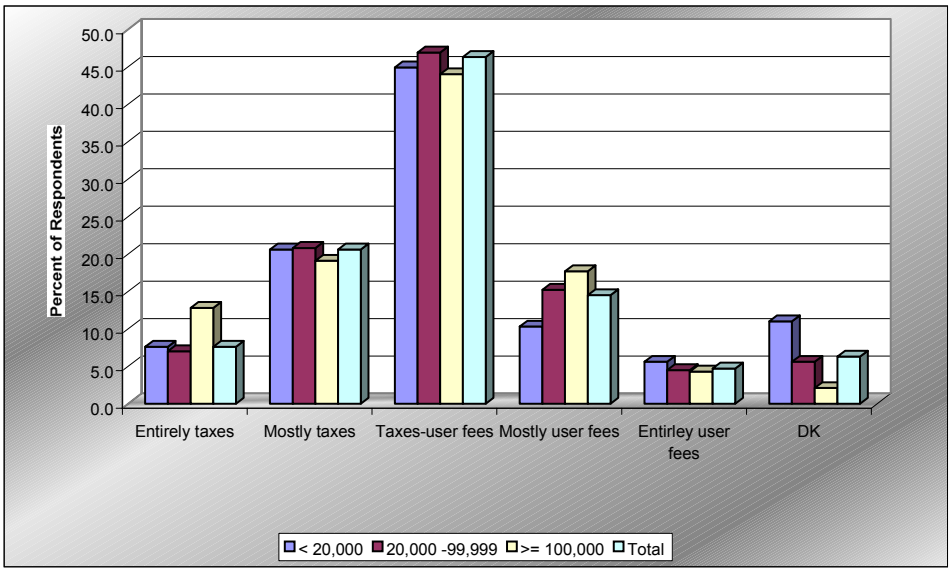
• Figure 29. Percent of respondents indicating the preferred balance between taxes and fees for generating public forest area operating funds (source: the telephone survey of Washington and Oregon residents).



Most respondents support some mix of taxes and fees with slightly more emphasis on taxes. Nineteen percent of all respondents indicated that operating funds should be obtained either entirely or mostly from user fees. Twenty nine percent of respondents identified the proper balance as either "entirely from taxes" or "mostly from taxes". The majority of respondents (46%) supported an even mix of taxes and fees.

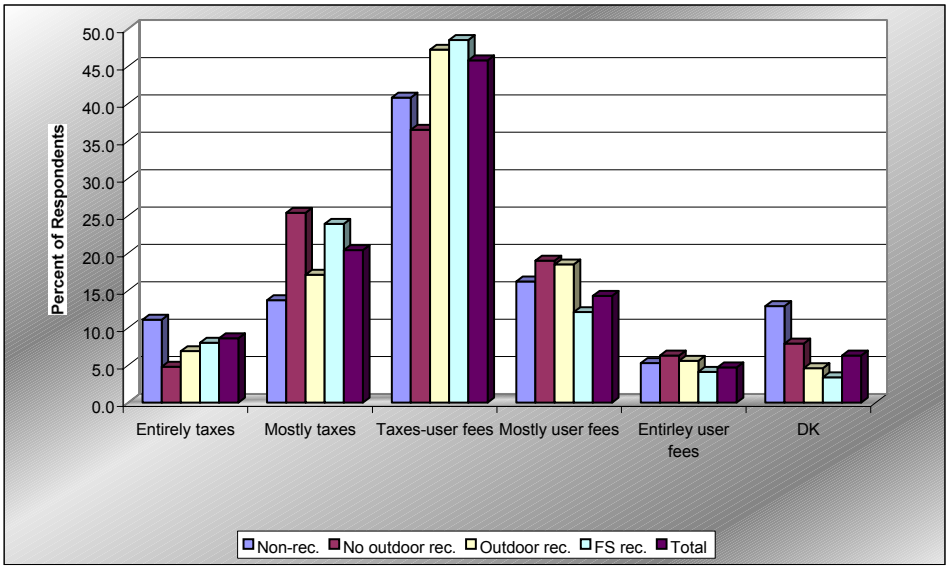
Beyond this general characterization, some statistically significant differences in preferred balances between taxes and fees were observed for the different groups of respondents. Of particular interest are the differences in evaluation of tax/fee balance by broad household income category (Figure 30). Respondents from the highest income category were more likely support a sole reliance on taxes for the generation of public forest areas operating funds.

- Figure 30. Percent of respondents indicating their preferred balance between taxes and fees for generating public forest area operating funds by household income category (source: the telephone survey of Washington and Oregon residents).



In addition to difference based on household income it was also observed that Forest Service users tend to place the balance a little more in favor of taxes over fees than other outdoor recreationists (Figure 31). In addition, non-recreationists and non-outdoor recreationists were more likely to favor taxes over fees. This pattern might suggest an element of option value, or support for a generalized concept of government providing a public good through taxes. As in other analyses of these respondent groups, this could also represent a lack of clarity about an issue with which they have little connection. This latter possibility is supported by the observation that non-recreationists were more likely to indicate that they did not know what the proper balance between taxes and fees should be.

Figure 31. Percent of respondents indicating their preferred balance between taxes and fees for generating public forest area operating funds by type of recreationist (source: the telephone survey of Washington and Oregon residents).

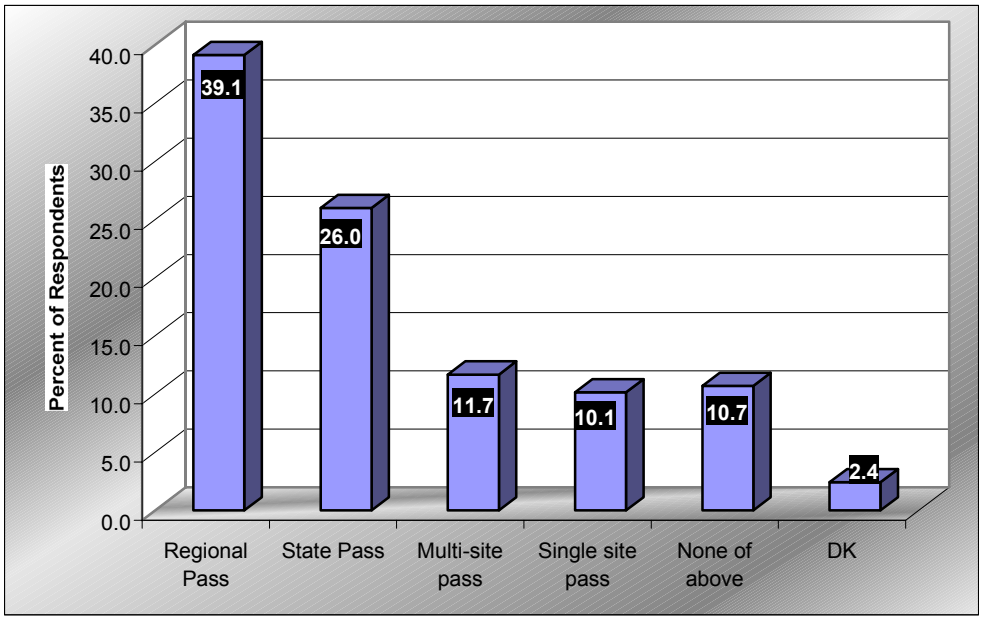


Preferred Pass Type

In an attempt to identify efficient and acceptable means of administering recreation fees in the Pacific Northwest, respondents to the general population survey were asked to select their most preferred pass option. For this question, the main differentiating factor for the passes is geographic scale. That is, do respondents prefer to buy passes for large geographic areas such as the Pacific Northwest region, or do they prefer to buy passes on a site by site basis. As shown in Figure 32, the majority of respondents prefer pass options at larger geographic scales. The most preferred single pass option was a regional pass (Oregon and Washington). Second to this option respondents indicated that they would most prefer passes at a state level.

Preferences for types of passes based on geographic area were very stable for all respondents. An examination of responses to this question did not reveal any significant differences in preferred pass for type of recreationist, household income or REP classification.

• Figure 32. Most preferred pass option for recreation on National Forest lands in the Pacific Northwest. Percent of all respondents to the general population survey (source: the telephone survey of Washington and Oregon residents).

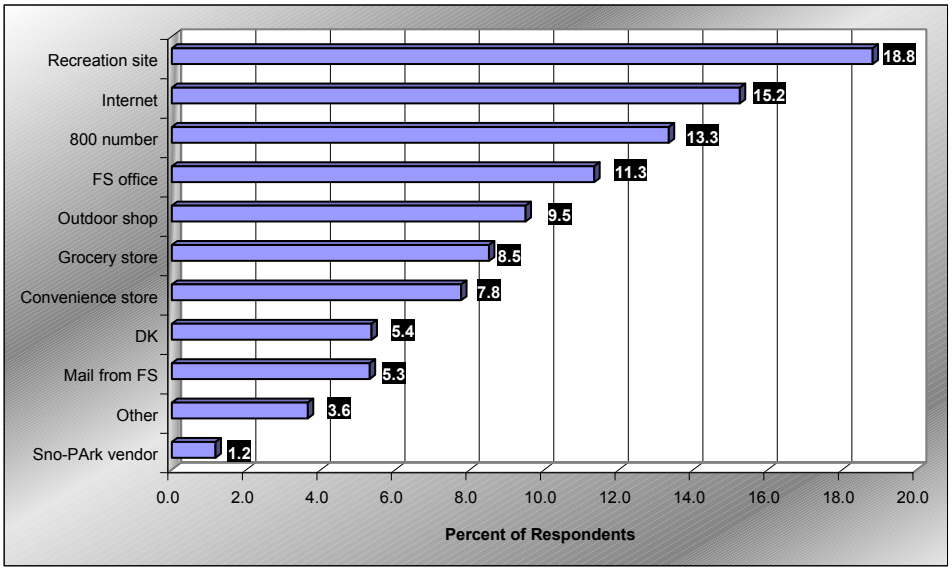


Preferred Purchase Method

Another element of an efficient and acceptable recreation fee system in the Pacific Northwest involves how recreation passes are to be made available to the public. Respondents were presented with a variety of locations and purchase methods and were asked which method was most preferable. Respondents were also able to add additional methods not in the questionnaire list. Figure 33 displays the range of purchase options in descending order of preference. The single most preferred purchase method is an ability to buy the pass at the recreation site. This option, along with the Internet and the use of 1-800 numbers, suggests that convenient and highly distributed methods of purchase are preferred.

More traditional locations for purchasing recreation passes and licenses (such as retail outlets, and US postal service) are less desirable. The nature of recreation on National Forest lands is highly distributed, and unconfined. This characteristic is reflected in the types of purchase methods most preferred by respondents to the general population study. As with the pass type preference question, responses to these options were stable across the sample and no significant differences were observed among the categories of respondents.

• Figure 33. Most preferred purchasing method for a National Forest lands recreation pass in the Pacific Northwest. Percent of all respondents to the general population survey (source: the telephone survey of Washington and Oregon residents).



Appropriate Expenditure for Fee Revenue

An assessment of the attitude toward fees requires an understanding not only of the appropriateness of charging fees or the acceptable means of administering them but also an examination of how recreationists feel the fee revenue should be spent. In order to accomplish this task, respondents were presented with a list of possible natural resource, facility, and service improvements and asked to rate the acceptability of fee expenditure for each category. Table 17 presents the mean acceptability rating for each expenditure option.

For every category of visitor examined the top priority for expenditure of fee revenue is to "maintain the quality of the natural environment".

• Table 0-8. Mean acceptability rating for selected fee expenduture options. Responses from the general population survey, with a five point scale (1, completely unacceptable to 5, completely acceptable)(source: the telephone survey of Washington and Oregon residents).

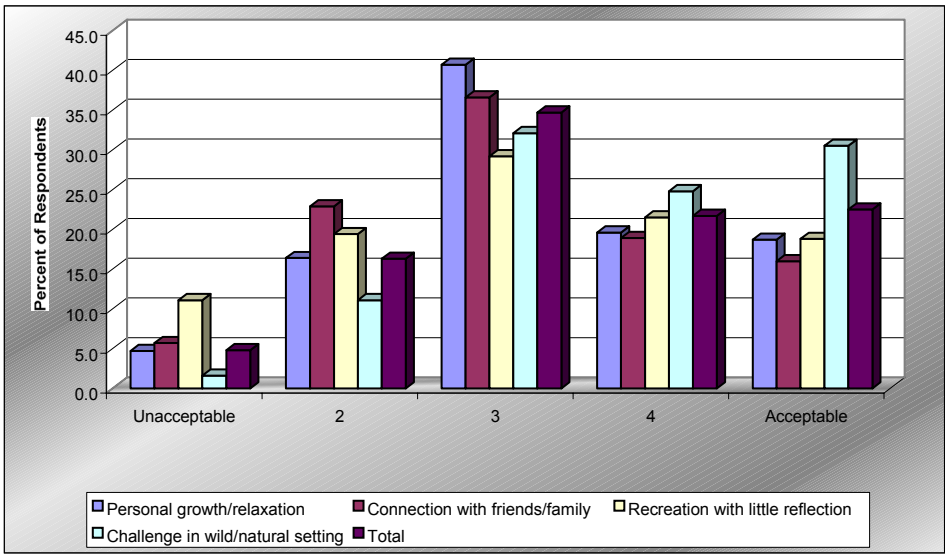
	N	Mean	Std. Dev.
Maintain the quality of the natural environment	935	4.60	.86
Maintain restrooms	941	4.23	1.05
Maintain trails	941	4.05	1.04
Provide emergency and security services	940	4.00	1.12
Provide assistance to ensure universal access to recreation opportunities.	925	3.59	1.18
Provide adequate recreation staff	933	3.47	1.24
Provide recreation information	942	3.41	1.14

Highest and lowest expenditure categories remain constant with most of the independent variables examined. Overall, respondent supported spending fee money on all of the options presented. However, expenditures that are aimed at maintaining the quality of the

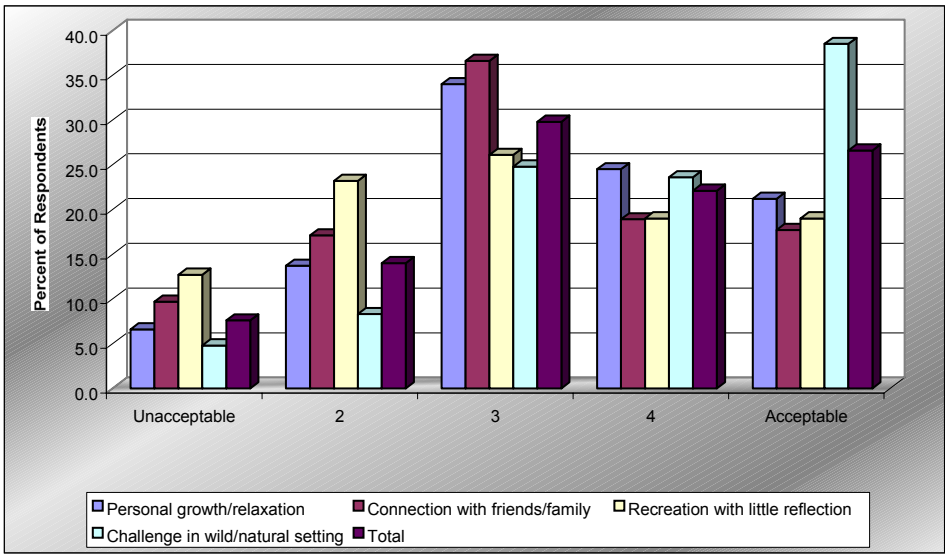
natural environment were the most important. Interestingly, the provision of adequate staff, and recreation information were the lowest rated expenditure options. Since the maintenance of the natural environment is intimately tied to both recreation staff and appropriate information this finding provides an occasion to reflect on the public perceptions of the recreation and natural resource profession.

The primary significant differences are seen in the way that individuals in the "challenge in wild and natural settings" REP cluster view the provision of information and recreation staff. For both of these expenditure categories, the challenge group finds this more acceptable than other respondents do (Figures 34 and 35). Since recreation staff is required to provide recreation information, it is logical that these two expenditure categories would exhibit similar rating distributions.

- Figure 34. Acceptability rating of spending fee revenue for the provision of recreation information REP cluster membership. (chi sq. sig. = .000) (source: the telephone survey of Washington and Oregon residents).



• Figure 35. Acceptability rating of spending fee revenue for adequate recreation staff by REP cluster membership. (chi sq. sig. = .000) (source: the telephone survey of Washington and Oregon residents).



Management Options and Trade-off Regarding Fees

For all of the fee attitudes discussed so far the evaluative context has been essentially neutral. That is, respondents have expressed their acceptance or rejection of recreational fees without consideration of specific consequences. In this final assessment, respondents were asked to make a series of trade-off decisions. That is, they were given the context of limited financial resources available to the management agencies. Within this context of limited resources, respondents were asked to rate their level of support for specific management options.

Respondents were asked to "Suppose the National Forest did not have enough money or staff to adequately maintain a particular recreation site". Table 18 details the mean evaluation of management options on a one to five-point scale with one being strongly opposed and five strongly support.

• Table 0-9. Mean responses to evaluation of management options. One to five-point scale with one being strongly oppose and five strongly support (source: the telephone survey of Washington and Oregon residents).

	N	Mean	Std. Dev.
Allow qualified volunteers to manage the site	1654	4.11	1.17
Insist Congress allocate additional funding to the F.S.	1618	3.84	1.31
Impose a fee for people to use the site	1631	3.61	1.34
Allow private corporations to sponsor the site	1620	3.35	1.53
Keep overall FS budget same, spend more on recreation management	1477	2.95	1.30
Contract with a private company to manage the site	1615	2.61	1.40
Close the site for recreational use	1629	1.85	1.26
Keep the site open but allow it to deteriorate	1651	1.68	1.15
Sell the site to a private company	1652	1.34	0.88

Volunteerism and increased appropriated funding were the two most supported options to deal with inadequate funding for maintaining recreation sites. Measures such as "selling

the site to a private company: for management" and "allowing the site to deteriorate" were seen as unacceptable. Support for charging fees also received support from respondents within this context of limited financial options.

Fee implementation options

In terms of fee implementation, respondents to the general population study highlighted the need to assure universal access to the public resource (Table 19). Specifically, there was a recognition that senior citizens should have preferential treatment and that some areas of the National Forests maintain free access. In keeping with the support for volunteerism observed in the previous analysis, there is also support for no-cost access for volunteers.

- Table 0-10. Mean responses to evaluation of fee implementation options.. One to five-point scale with one being strongly oppose and five strongly support (source: the telephone survey of Washington and Oregon residents).

	N	Mean	Std. Dev.
Give senior citizens a discount on National Forest Fees	1668	4.44	1.07
Give people a free pass after they worked at site	1658	4.35	1.11
Offer an annual pass that works for all recreation sites	1640	4.29	1.12
Set aside areas of National Forests with no fees	1646	4.22	1.17
Charge higher fees for activities with greater impacts	1647	3.95	1.35
Make one day a month free	1636	3.82	1.52
Do not charge fees on National Forest lands except camping at developed sites,	1637	3.38	1.42
Charge higher fees on busy days to reduce crowding	1639	2.74	1.56
Charge fees on a per-person basis rather than per-vehicle	1622	2.22	1.41

Another interesting observation is the support for charging fees based on the level of impact associated with recreation activities. The notion of charging higher fees for activities with greater impact is consistent with the acceptable activity fees identified earlier in this report. Recreational vehicle fees and Off highway vehicle fees were supported by the majority of respondents and so it is not surprising that this type of fee implementation would be supported.

Support for charging higher fees for greater impact activities suggests that respondents find it acceptable to use fees to accomplish other resource and management goals. However, the results of this question suggest that this is not a blanket approval of management by fee. For example, the use of fees to reduce access and control crowding received much lower support by respondents.

Evaluation of Pricing and Pass Types By Respondents to the Telephone Survey

The focus of this section is on the telephone survey respondents. For purposes of evaluating pricing of various pass options and considering the effects of that pricing on subgroups of the population, particularly income subgroups, one needs to look at a broader population than those who actually use sites currently charging a fee. The onsite survey is limited to that latter group. While subsequent analyses can compare the onsite sample of participants at recreation fee sites to the broader sample of all national forest

recreation participants in the Pacific Northwest, doing so here would be tangential to our primary purpose.

As alluded to above, telephone survey respondents expressed a preference for a regional annual pass. When asked: "How much do you like the idea of…" each of four types of passes (regional annual, regional 7 day, regional 1 day, single site 1 day), 64% of respondents rated the regional annual pass at 4 or 5 on a five-point scale (on which 5 was labeled "a lot," 3 was labeled "a little," and 1 was labeled "not at all"), compared to 59% for the regional 7 day, 46% for the regional 1 day, and 49% for the single site 1 day pass. Those results are shown in Table Twenty.

- Table 0-11. Extent to Which People "Like" Various Pass Types (source: telephone survey of Washington and Oregon residents).

How much do you like the idea of…	Response	Proportion
A Regional Annual Pass?		
	Do Not Like	15%
	Like a Little	20%
	Like a Lot	64%
	No Opinion	1%
A Regional 7 Day Pass?		
	Do Not Like	19%
	Like a Little	21%
	Like a Lot	59%
	No Opinion	1%
A Regional 1 Day Pass?		
	Do Not Like	35%
	Like a Little	18%
	Like a Lot	46%
	No Opinion	1%
A Single Site 1 Day Pass?		
	Do Not Like	31%
	Like a Little	17%
	Like a Lot	49%
	No Opinion	2%

Responses were presented as a 5-point scale with 1 labeled "Not at All," 3 was labeled "A Little," and 5 was labeled "A Lot." Do Not Like on the Table is the sum of responses 1 and 2, Like a Little is response 3, and Like a Lot is the sum of responses 4 and 5.

The next question put dollar prices on the passes and respondents were asked "which pass would you buy at the following prices to cover any visits you might make to National Forests in Oregon or Washington next year?" The actual text of the question, and its context, can be found in the survey instruments presented in Appendix Z. Prices were

assigned randomly to each type of pass from a specified range[7]. Though some individuals saw the same set of prices that others saw, there were many different combinations of prices seen by the telephone respondents.

The pricing (or valuation) question was structured as a modified "contingent valuation" (CV) question for which respondents were to choose one of the alternative price/pass type combinations or the "I would not buy a pass" alternative. The question was posed in a "dichotomous choice" format, in which respondents respond yes or no to a specified price. That format is generally thought to be easier for respondents than the "open-ended" format in which respondents are simply asked to state the maximum amount they would pay for the specified good or service. The idea with dichotomous choice questions is to set up a range of alternative prices such that at the low end a high proportion of respondents will respond "yes" (they would pay the specified price), and at the high end a high proportion of respondents will respond "no." When respondents are faced with different prices for different pass types they will trade off between the attributes or benefits of each pass type and the amount they would have to pay for that pass. When a large number of such responses are combined, probability distributions can be statistically estimated to provide insight on how people will respond to different pass types at different prices. Before we talk about those probability distributions, some initial insights can be gained from looking at the basic choices made by respondents.

The question of whether they would buy a Forest pass at specified prices was only asked of people who had earlier in the survey identified themselves as having ever visited a national forest. That amounted to just over half the sample--56% of the respondents were asked that CV question. When it came to choosing a pass type to buy at the randomly assigned combinations of prices, 42% of those responding selected the regional annual pass (Table 21).

- Table 0-12. Pass Type Selected for Purchase (at all prices) (source: telephone survey of Washington and Oregon residents).

"…which pass would you buy…" (at the specified	Proportion Selecting Each Pass Type
Regional Annual Pass	42%
Regional 7 Day Pass	18%
Regional 1 Day Pass	4%
Single Site 1 Day Pass	11%
Would not buy a Pass	23%
Don't know	2%

The regional 7-day pass was selected by 18%, the single site 1-day pass was selected by 11%, and the regional 1-day pass was selected by 4% of respondents to whom the question was posed. About 23% of respondents said they would not buy a pass if the prices were as specified in the question they saw. Of those who said they would not buy a pass, 26% said it was because the specified prices were too high (indicating the CV

[7] Prices for the regional annual pass were: $23, $38, $51, $83, $104. Prices for the regional 7-day pass were: $12, $19, $29, $38, $49. Prices for the regional 1-day pass were: $8, $12, $19, $29. Prices for the single site 1-day pass were: $2, $4, $8, $12, $19. There are 500 possible unconstrained combinations of those prices. A constraint was imposed to ensure that the price of the regional annual pass was greater than or equal to the price of the regional 7 day pass, which was greater than or equal to the price of the regional 1 day pass, which was greater than or equal to the price of the single site 1 day pass.

question was working and people were trading off between pass attributes and price). Those results are shown in Table 22. Forty-four percent of those who said they would not buy a pass did so because they "do not support charging fees at any price." The latter implies that about 10% (44% of 23%) of people who report recreating on a National Forest are opposed to fees to the extent that they would not buy a pass to recreate at a Forest Service site[8].

- Table 0-13. Reasons For Not Buying a Forest Pass (source: telephone survey of Washington and Oregon residents).

If you would not buy a pass, why not?	Proportion
Suggested fees are too high	26%
I do not support charging fees at any price	44%
Other reasons	24%
Don't know	6%

The group of people who said they would not buy a pass, for whatever reason, saw a full range of prices for the passes. They were not people who only saw high prices. As one would expect, people who said they would not buy a pass because the fee was too high tended to be more concentrated in the upper part of the price ranges for each pass type than were all respondents, i.e., more people who said they would not buy a pass because the fee was too high saw higher prices than lower prices. At the same time, many of them did see low prices for all the passes. Again, this indicates people are responding to the prices and the CV question is working.

Those people who said they would not buy a pass because they do not support charging fees at any price were more evenly spread throughout the price range for each pass type. Those people do not appear to be reacting to the price levels associated with the passes. They are refusing to buy passes on more philosophical grounds, regardless of price.

The facts that people refusing to buy a pass because the fee was too high are somewhat more concentrated in the upper part of the price ranges for each pass type, and those refusing to buy passes on more philosophical grounds are more evenly spread throughout the price ranges serve as validity checks on the data. One would expect more people to say "no" at higher prices, whereas price should not be relevant to those refusing to buy a pass purely on philosophical grounds. People are acting in a consistent manner.

There were some people, who even though they responded they would buy one of the passes at the specified prices, responded to the question about why they would not buy a pass. Even though they would buy a pass, they wanted to provide a comment. Most of those people said "the fees were too high." Again, this is an indication the CV question was working. People thought the fees were "too high" but, faced with either paying the fee

[8] Compare this 10% to the XX% of all respondents and the YY% of respondents who identified themselves as having recreated on a national forest, cited earlier, who indicated opposition to any recreation fees by supporting or strongly supporting a policy to "not charge any fees for recreating on National Forest lands." There is no inconsistency being shown here. One could infer from those results that YY% of national forest users are opposed to any recreation fees on the national forests, but only about 10% are opposed to the extent that they would refrain from recreating on the national forest rather than pay a fee. That is not to say that people who say they are opposed to charging fees, but who would still pay a fee, would not be impacted by a fee. Even though they pay the fee, their recreation experience might be adversely affected, or they might become disenfranchised to some extent and their relationship to the land and to the Forest Service might be altered or damaged.

or not recreating on the national forest, they opted to pay the fee, albeit in a hypothetical context.

How did people respond to the specified prices? As shown in Table 23, when the regional annual pass was priced at $23, 61% of respondents selected that pass type. At a price of $38, 58% of respondents selected that pass When the regional annual pass was priced at $51, almost half (48%) of the respondents facing that price selected the regional annual pass. At prices of $83 and $104, 33% and 19% of respondents facing those prices, respectively, selected the regional annual pass. There was a drop-off as price increased, but even at $104, 19% of respondents still selected the regional annual pass. For the regional 7-day pass, there was a relatively smooth drop-off as price moved from $12 to $49 (Table D). Twenty-seven percent of respondents faced with a $12 price for the regional 7-day pass chose that alternative, while 11% of those faced with a $49 price for the regional 7-day pass chose that pass. Less than 7% of respondents chose the regional 1-day pass at any price—6.6% at $8 to 2% at $29. For the single site 1-day pass, between 10% and 15% of respondents faced with prices of $2, $4, and $8 chose that pass type. At prices of $12 and $19, only 6% and 2%, respectively, chose the single site 1-day pass (Table 23).

- Table 0-14. Willingness to Pay for Different Pass Types at Different Prices (source: telephone survey of Washington and Oregon residents).

Pass Type	**Price**			
Regional Annual Pass		Selected Regional Annual Pass	Selected Some Other Pass	Would Not Buy Any Pass
	$23	61%	27%	12%
	$38	58%	24%	18%
	$51	48%	25%	27%
	$83	33%	42%	24%
	$104	19%	46%	31%
Regional 7 Day Pass		Selected Regional 7 Day Pass		
	$12	27%	57%	15%
	$19	23%	58%	17%
	$29	16%	54%	29%
	$38	12%	59%	27%
	$49	11%	58%	28%
Regional 1 Day Pass		Selected Regional 1 Day Pass		
	$8	7%	72%	20%
	$12	4%	75%	19%
	$19	5%	69%	24%
	$29	2%	66%	32%
Single Site 1 Day Pass		Selected Single Site 1 Day Pass		
	$2	14%	65%	19%
	$4	15%	67%	17%
	$8	11%	66%	22%
	$12	6%	62%	31%
	$19	2%	63%	33%

Percentages within pass types might not add to 100% because there were a few "Don't Know" responses.

What do these basic results tell us about people's willingness to pay for different kinds of passes? The regional annual pass is the most popular among national forest users in the telephone survey respondents. At $51 almost half the respondents facing that price choose that pass. The biggest drop-off occurs between $51 and $83, but 19% of respondents facing a price of $104 still select the regional annual pass rather than one of the other pass types or not buying a pass at all. The biggest drop-off in people selecting the regional 7-day pass occurs around $29, but even at a price of $12 only 27% of respondents are selecting that pass. The proportion of respondents selecting the regional 1-day pass is small throughout the price range; that pass type is dominated by the others. The drop-off in people selecting the single site 1-day pass occurs around $8, with between 10% and 15% of respondents selecting the single site 1 day pass at the lower prices ($2, $4, $8).

Responses to the pricing question were used to estimate a multinomial logit model (MNL) of the probability that an individual will purchase a pass as a function of the prices of the alternative pass types. The MNL is a choice model, it uses attributes of the choices and/or the respondents to predict the probability that a given choice will be selected. Given a set of prices for the four pass types, the MNL estimates the proportions of respondents that will purchase each pass type and the proportion that will not purchase a pass at all.

Table 24 shows the estimated coefficients from an MNL model based on the representative sample of Oregon and Washington residents[9]. The table also shows the estimated coefficients, standard errors of the estimate, the calculated Wald statistics (which test whether the coefficient is significantly different from zero), degrees of freedom, and the statistical significance level at which the coefficient is significantly different from zero. Typically, significance is evaluated at the .05 or .10 level. In this discussion, we will accept significance at the .10 (10%) level or better, i.e., any significance level less than .100 we will accept as indicating the coefficient is significantly different from zero.

[9] The representative sample model is based on the random sample of Oregon and Washington residents, i.e., it does not include any of the over sampling. Further, the sample is weighted to be representative of the general population.

- Table 0-15. Multinomial Logit Model for Representative Sample of Oregon and Washington – Parameter Estimates[a] (source: telephone survey of Washington and Oregon residents)

		Coefficient	Standard Error	Wald Statistic	Degrees of Freedom	Significance Level
Regional Annual Pass	Constant	2.133	.284	56.457	1	.000
	Price A[b]	-0.02152	.003	42.712	1	.000
	Price B	0.00520	.008	.425	1	.514
	Price C	-0.00797	.014	.345	1	.557
	Price D	-0.02829	.017	2.831	1	.092
Regional7 Day Pass	Constant	0.846	.345	6.032	1	.014
	Price A	0.007859	.004	4.434	1	.035
	Price B	-0.04376	.010	19.549	1	.000
	Price C	-0.02785	.018	2.430	1	.119
	Price D	0.0001457	.021	.000	1	.995
Regional1 Day Pass	Constant	-0.745	.580	1.651	1	.199
	Price A	0.003215	.006	.270	1	.604
	Price B	0.001321	.014	.008	1	.927
	Price C	-0.06842	.030	5.169	1	.023
	Price D	-0.01610	.037	.185	1	.667
Single Site1 Day Pass	Constant	-0.330	.419	.618	1	.432
	Price A	0.004531	.004	1.029	1	.310
	Price B	-0.01095	.011	.934	1	.334
	Price C	0.03439	.018	3.635	1	.057
	Price D	-0.146	.028	27.197	1	.000

[a]. Estimation based on the entire sample to whom the pricing question was asked, n=918. Sample was weighted to approximate the general population in Oregon and Washington.

[b]. Price A, B, C, D refer to the prices of the Annual Pass, Regional 7 Day Pass, Regional 1 Day Pass, and Single Site 1 Day Pass, respectively.

The Wald statistic tests whether coefficients are significantly different from zero for the individual models—the Regional Annual Pass model, etc. Whether a particular variable has a significant effect in the overall model can be tested using a likelihood ratio test. In a likelihood ratio test, models are estimated with and without the variable in question (using maximum likelihood methods) and a likelihood ratio is constructed. Negative two times the difference in the logs of the likelihoods is distributed as a chi-square statistic and a judgement can be made as to whether the difference in log likelihood is significantly different from zero. In the case of the MNL model for the representative sample of the Oregon and Washington populations, the likelihood ratio tests indicate that the constant term and all four price variables are significant predictors of the probability an individual will choose any given pass type or no pass at all.

For each pass type, the constant term and the coefficients can be substituted into a logistic probability distribution function. When prices are inserted for each pass type, the probability that an individual will purchase any given pass type can be calculated. The probability that an individual will not buy any of the passes can be calculated by subtracting the sum of the probabilities for the four pass types from one.

The logistic distribution function is of the form:

$$\Pr(Pass_i) = \frac{Exp\left(b_{i0} + b_{i1} * P_A + b_{i2} * P_B + b_{i3} * P_C + b_{i4} * P_D\right)}{1 + \sum_{i=1}^{4} Exp\left(b_{i0} + b_{i1} * P_A + b_{i2} * P_B + b_{i3} * P_C + b_{i4} * P_D\right)}$$

where i indicates pass type (1 through 4), Pr(Passi) is the probability an individual chooses the ith pass type, PA, PB, PC, PD are the prices of the four pass types, Exp( ) is the exponential of the function enclosed in parentheses, the b's (bi0, bi1, etc.) represent the estimated constant terms and coefficients in the MNL for each of the four pass types, and the summation in the denominator is the sum of the exponentials of the functions for all four pass types.

As expected from economic theory, the "own price" coefficient for each pass type (the coefficients on Price A for the Regional Annual Pass, Price B for the Regional 7 Day Pass, Price C for the Regional 1 Day Pass, and Price D for the Single Site 1 Day Pass) is negative and significantly different from zero. The negative sign indicates that as that price increases, the probability of selecting the pass type decreases—as the pass gets more expensive, one is less likely to purchase it. For the Regional Annual Pass and the Regional 7 Day Pass, the constant term is significantly different from zero, for the other pass types it is not. The other coefficients in the models represent interactions between the probability of choosing a given pass type and the prices of the other passes. If the price of one type of pass increases relative to other types, respondents are more likely to select one of the other passes or no pass at all. Intuitively, the probability that a person buys Brand A peanut butter depends not only on the price of Brand A peanut butter, but also on the prices of Brands B, C, and D of peanut butter. We are not going to speculate,here, as to exactly what those interactions are or why they are the magnitude and direction they are. The point to come away with is that the probability an individual will select any given pass, or choose no pass at all, is a function of all the prices and the relationship between those prices. This estimated model can be used to provide an indication of the response one might expect, in terms of proportions of national forest users buying each pass type or no pass at all, to different levels and mixes of pass prices.

Likelihood ratio tests can also be used to evaluate whether people at different income levels behaved differently in terms of the probabilities with which they would buy any given pass or no pass at all. Because maximum likelihood methods are used to estimate the MNL, if all income subgroups of the population behave the same way in terms of their responses to pass prices, the likelihoods of models estimated separately for each income group will sum to the likelihood of a model estimated for all of the groups combined. That test is shown in Table 25. Negative two times the likelihoods calculated from separate models for each income group are shown, along with their sum and negative two times the likelihood calculated from a pooled model of all groups combined. The difference is a chi-square statistic.

- Table 0-16. Likelihood Ratio Test[a] – Income (source: telephone survey of Washington and Oregon residents).

Group Number	Income Category	-2 Log Likelihood	Degrees of Freedom
1	Less than $10,000	372.854	16
2	$10,000 - $19,999	46.841	16
3	$20,000 - $29,999	206.879	16
4	$30,000 - $49,999	431.054	16
5	$50,000 - $74,999	441.892	16
6	$75,000 - $99,999	280.844	16
7	$100,000 and over	267.277	16
	Sum	2047.641	112
	Pooled Model	1524.959	16
	Chi Square	522.682	96

[a] Test was based on separate MNL models estimated for each income group and a pooled MNL model combining all the income groups. Estimations were based on the entire unweighted sample to whom the pricing question was asked, n=918.

The chi-square statistic of 523 shown in Table 25 is well beyond the chi-square standard of 114 (at a .10 level of statistical significance with 96 degrees of freedom). Hence, we reject the hypothesis that all income groups respond to pass prices in the same way. While the pooled MNL is the best representation of all the observations taken as a whole, it is not the best representation of each income group within the population.

In comparing behavior between income groups we are not looking at a model with the intent of drawing conclusions for the population as a whole. We are merely comparing how people in different subgroups of the population respond to prices. For that purpose, there is no need to have a representative sample of the population. Hence, the comparisons between income groups (including that shown in Table 25) are based on the unweighted telephone survey data for all those of whom the pricing question was asked. Results for individual income groups are only generalizable to those income groups.

The likelihood ratio tests shown in Table 25 tell us that all income groups are not responding to prices in the same way. That test would show a difference whether all seven groups were responding differently or just one of the seven were responding differently. To gain more insight into how different income groups are responding to different levels of prices, a whole series of MNL models were estimated and likelihood ratio tests performed.

Those tests lead us to conclude the following: The hypothesis that separate MNL models for different income groups are statistically indistinguishable, i.e., that groups are responding similarly to pass prices, cannot be rejected for Groups 1, 2, and 3 (under $30,000 per year in household income); Groups 2, 3, and 4 ($10,000 to $49,999 per year); and Groups 6 and 7 ($75,000 or more per year). Group 5 ($50,000 to $74,999 per year) responds to pass prices differently than does any of the other groups. The facts that Groups 1, 2, and 3 respond similarly to pass prices and Groups 2, 3, and 4 respond similarly, but all four groups do not, imply that Groups 2 ($10,000 to $19,999 per year) and 3 ($20,000 to $29,999 per year) respond very similarly to pass prices, and Groups 1 (under $10,000 per year) and 4 ($30,000 to $49,999 per year) are each sufficiently similar

to Groups 2 and 3 to be statistically indistinguishable from Groups 2 and 3, but are statistically distinguishable from each other. At the other end of the income range, Groups 6 ($75,000 to $99,999 per year) and 7 ($100,000 or more per year) are responding similarly to pass prices.

Examining the estimated coefficients and constant terms for all those MNL models for different income groups did not result in any discernable patterns that would point to specific differential effects between income groups. All we can conclude at this point is that the interactions between prices for different pass types, the constant terms in the models, and the probabilities that individuals purchase one of the passes or no pass at all are different for different income groups.

Attitudes of the National Forest Service Recreational User Population at Recreation Fee Demonstration Project Sites in Oregon and Washington

The general population study provided an opportunity to examine the fee attitudes of residents of Washington and Oregon. The second portion of this study allows for an in-depth examination of the fee attitudes held by users of Recreation Fee Demonstration Project (RFDP) sites in Oregon and Washington. In section, the same major attitude topics were covered as for the general population study. These topics include: 1) acceptable activity fees, 2) the desirability and performance of facilities and services, 3) general fee attitudes, 4) preferred pass types, 5) preferred pass purchase method, 6) appropriate fee revenue expenditures, and 7) evaluation of appropriate management decisions in a fiscally constrained context. The results of this analysis are presented in this section.

Acceptable Fee for Activity Charges

As in the general population study, users of RFDP sites indicated a willingness to pay recreational user fees for certain activities and in certain situations. Respondents were presented with a list of 24 activities, and asked how acceptable it would be to charge fees for those activities on the national forests in Oregon and Washington. Responses were on a five-point scale, with one being "completely unacceptable" and five being "completely acceptable."

There was a strong consensus among respondents regarding the acceptability of certain recreational fees. Regardless of activity type, REP classification, level of involvement or household income, people felt it would be acceptable for the Forest Service to charge fees for "RV camping," "camping at campgrounds with facilities," and "Boat dock use." All respondents also agreed on the unacceptability of some activity fees. These unacceptable activity fees include: "stopping at scenic overlooks," "driving on Forest Service roads," and "picnicking." Table 26 details the mean acceptability levels by all respondents for the twenty-four activity fees.

Table 0-17. . Mean acceptability for selected activity charges by users of RFDP sites (all respondents). One to five-point scale with one being completely unacceptable and five completely acceptable (source: on-site/mail-return survey of RFDP sites)

	N	Mean	Std. Dev.
Camping (RV)	1207	4.68	0.84
Camping (with facilities.)	1241	4.66	0.81
Boat Dock	1228	4.18	1.21
Forest Products	1226	3.89	1.39
OHV	1168	3.86	1.48
Horseback Riding	1198	3.72	1.43
Hot Springs	1197	3.52	1.43
MT Bike	1209	3.51	1.52
Climbing	1206	3.20	1.53
Interpretive Programs	1227	3.20	1.49
Camping (No Facilities)	1238	3.07	1.37
Rafting	1213	3.07	1.52
Backpacking	1200	3.02	1.55
Parking (Trailhead)	1257	2.85	1.50
Wilderness	1211	2.81	1.50
Visitor. Centers	1250	2.80	1.55
Hike Off Trail	1203	2.70	1.59
Hike On Trail	1241	2.69	1.55
Swimming	1222	2.43	1.41
Parking (NF)	1249	2.39	1.40
All Places	1165	2.36	1.31
Picnicking	1252	2.22	1.36
Driving	1234	2.10	1.41
Over-Looks	1260	1.57	1.10

Significant Differences in Acceptable Activity Charges

Significant differences were observed in the ratings of acceptable activities by both activity type and level of involvement with the site. A chi square analysis was performed on the responses to the activity fee acceptability measures by each of the independent variables (REP, activity cluster, household income, and level of involvement with the site). Appendix X details the distributions for the comparisons that were significantly different (chi square sig. >= .05).

An examination of the activity fees with significant differences by activity type reveals a consistent pattern (Table 27). For most of the activities, the backcountry traditional and water-oriented recreationists were more likely to see the fee as completely unacceptable. In contrast, for many of the activities, front-country traditional and nature appreciation recreationists were more likely to find the activity fee completely acceptable. Thus, respondent characterized by these types of activities represent different segments of the recreation population based on the types of activities they are willing to pay for.

It is also interesting to observe that respondents were somewhat less likely to accept fees for the activities with which they are most strongly associated. The exception to this was the backcountry traditional and water-oriented activity types who appeared to be consistently rate most fee types unacceptable. Otherwise, most respondents accepted a range of activity fees but tended to be less willing to accept fees for their own particular activity preferences.

- Table 0-18. Summary of activity cluster types that revealed significant differences in acceptabiltity of particualr activity charges. Based on a chi square analysis of respondents and significance levels <= .05 (source: on-site/mail-return survey of RFDP sites).

Activity Fee type	Activity cluster most likely to find this fee *unacceptable*	Activity cluster most likely to find this fee *acceptable*
Driving	• Backcountry Traditional • Water-oriented	
Hiking off trail	• Backcountry Traditional • Water-oriented • Backcountry purists	• Front-country traditional • Nature appreciation
Backpacking	• Backcountry Traditional • Water-oriented	
Camping with no facilities	• Backcountry Traditional	
OHV	• Backcountry Traditional	
Horse	• Backcountry Traditional • Water-oriented	
Mt Biking	• Backcountry Traditional • Water-oriented	• Front-country traditional • RV/OHV[10] • Nature appreciation
Climbing	• Backcountry Traditional • Water-oriented • Backcountry purists	• Front-country traditional • RV/OHV • Nature appreciation
Rafting	• Backcountry Traditional • Water-oriented	• Front-country traditional • RV/OHV • Nature appreciation
Hot spring use	•	• Front-country traditional
Parking National Forests	• Backcountry Traditional • Water-oriented	
Swimming	• Backcountry Traditional • Water-oriented • Backcountry purists	
Wilderness use	• Backcountry Traditional • Water-oriented • Backcountry purists	

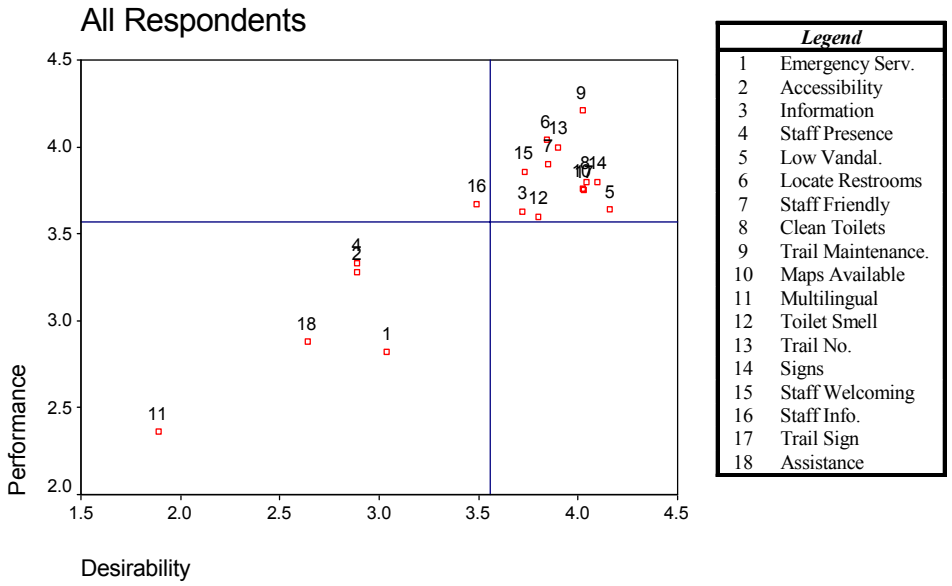
[10] Recreational Vehicle (RV) or Off-highway Vehicle (OHV)

Desirability/Performance Evaluation of Facilities and Services

Respondents to the user study were asked to rate the desirability of selected facilities and services and the performance of the Forest Service in providing those facilities and services. These ratings were then analyzed using the I-P techniques discussed above.

Taken together, the respondents at RFDP sites revealed a high level of symmetry in their response to the desirability and performance question (Figure 36). Although this symmetry was less pronounced than with the general population sample, respondents rated the Forest Service performance high for attributes that were highly desirable.

- Figure 36. I-P analysis for all respondents to the National for recreation user study. Mean desirability and performance ratings for selected facility and service items (source: on-site/mail-return survey of RFDP sites).



As detailed in table 28, most of the attributes examined were desirable to respondents. Respondents indicated that they desired conditions that assure a low risk of vandalism or theft to vehicles. In addition, information in the form of signs and maps was important to users. Multilingual services, and services for people with special needs or disabilities were less desirable attributes for users of RFDP sites

Although the recreations wanted a low risk of vandalism, they rated the presence of uniformed staff for security relatively low. This is an apparently inconsistent result. Perhaps respondents are indicating that they want conditions to ensure security but they do not want to be aware of the presence of uniformed staff.

Table 0-19. Mean desirability rating for selected recreation facilities and services. Rating on a five-point scale from 1 (not at all desirable) to 5 (extremely desirable) (source: on-site/mail-return survey of RFDP sites).

	N	Mean	Std. Dev.
Low risk of vandalism or theft to vehicles	1199	4.16	1.06
Clear and informative signs	1246	4.10	0.95
Clean toilets	1196	4.04	1.14
Trails that are well signed	1181	4.03	0.98
Maps of the area easily available	1214	4.02	1.05
Trails that are well maintained	1193	4.02	0.97
Sufficient number of trails	1130	3.90	1.02
Personnel who are friendly and helpful	1193	3.85	1.25
Conveniently located restrooms	1249	3.84	1.19
Toilets that do not smell bad	1207	3.80	1.26
Personnel who make the public feel welcome	1197	3.73	1.33
Useful information about recreation opportunities	1203	3.72	1.14
Staff available to provide information	1202	3.49	1.36
Availability of emergency services	920	3.04	1.37
Accessibility for people with disabilities	985	2.89	1.47
Adequate presence of uniformed staff to feel secure	1199	2.86	1.42
Assistance for people with special needs	871	2.64	1.42
Availability of multilingual services	833	1.89	1.23

For the most part, respondents indicated that the Forest service performed well at providing the most desirable facilities and services. Table 29 reveals a high performance rating for most facilities and services examined. Performance is lower for facilities and services related to universal access, security, and safety.

- Table 0-20. Mean rating of National Forest Service performance in providing recreation facilities and services. Rating on a five-point scale from 1 (not at all) to 5 (extremely) (source: on-site/mail-return survey of RFDP sites).

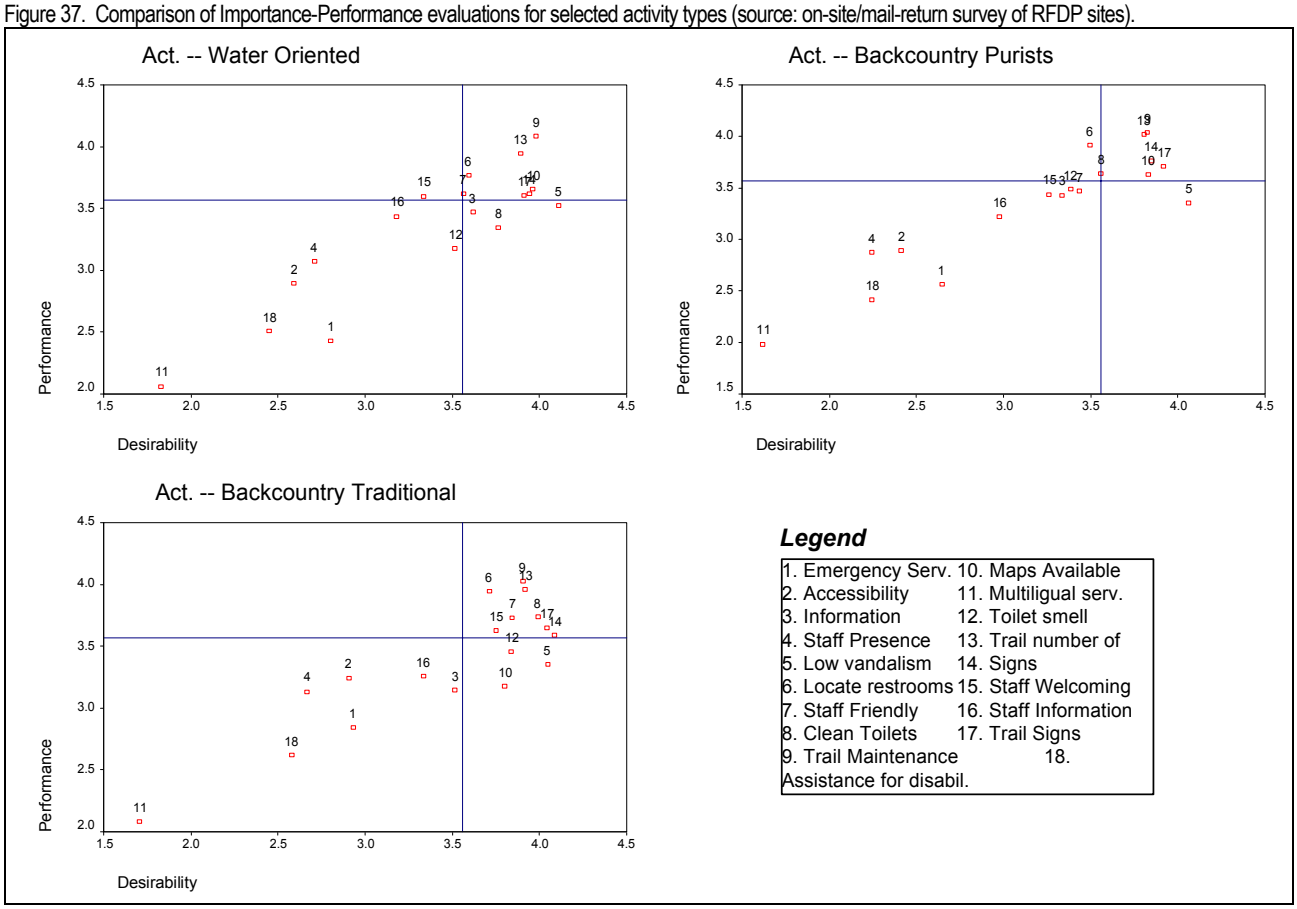
	N	Mean	Std. Dev.
Trails that are well maintained	1096	4.21	0.87
Conveniently located restrooms	1156	4.04	1.04
Sufficient number of trails	993	4.00	0.90
Personnel who are friendly and helpful	1059	3.90	1.30
Personnel who make the public feel welcome	1038	3.86	1.31
Clear and informative signs	1168	3.80	1.01
Clean toilets	1062	3.80	1.12
Maps of the area easily available	1087	3.76	1.19
Trails that are well signed	1067	3.75	1.04
Staff available to provide information	1038	3.67	1.34
Low risk of vandalism or theft to vehicles	961	3.64	1.21
Useful information about recreation opportunities	1064	3.63	1.06
Toilets that do not smell bad	1038	3.60	1.19
Adequate presence of uniformed staff to feel secure	1005	3.33	1.41
Accessibility for people with disabilities	673	3.28	1.35
Assistance for people with special needs	428	2.88	1.36
Availability of emergency services	403	2.82	1.34
Availability of multilingual services	329	2.36	1.33

An importance/performance analysis was done separately for each of the independent variables used for the recreational user sample. That is, desirability and performance responses for each user category (REP, Activity, household income, and level of site involvement) were analyzed separately. For most of these categories there were no facilities or service ratings that fell within the "concentrate efforts here" quadrant[11] (high desirability, low performance).

Respondents from three activity types (water-oriented, backcountry purists, and backcountry traditional) highlighted facilities and services that require further effort by managers (Figure 37). All three offered lower performance ratings for the provision of a sense of safety from vandalism to vehicles. For both the water oriented recreationists and the backcountry traditionalists, there was a perception that the Forest Service could improve quality of restrooms. The backcountry traditional activity type also identified needed improvements in the availability of maps for the area.

[11] See Figure 21 above for description of these quadrants.

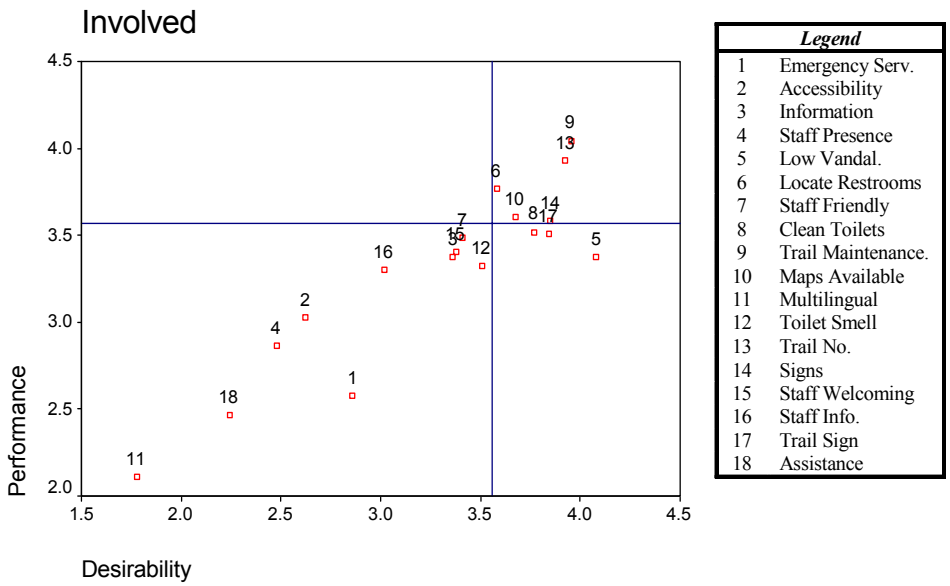
Figure 37. Comparison of Importance-Performance evaluations for selected activity types (source: on-site/mail-return survey of RFDP sites).



Areas of potential improvement were identified by the respondents classified as "involved" (return visitors for whom the site is the primary purpose of their trip). These recreationists rated a "low risk of vandalism or theft to vehicles" as very desirable but rated the performance of the Forest Service as relatively low (Figure 38).

Taken together, respondents at RFDP sites felt that the Forest Service is doing a good job at providing the most desirable facilities and services. According to backcountry recreationists (both purist and traditional), water oriented recreationists, and recreationists who have higher levels of involvement in the site, improvements are needed in security from vandalism.

• Figure 38. I-P analysis for respondents classified as "involved" in terms of experience with the site. Mean desirability and performance ratings for selected facility and service items (source: on-site/mail-return survey of RFDP sites).



General Attitudes Toward Fees

The fee attitudes of recreationists at RFDP sites were measured using general fee statements. These statements offered a range of sentiments supporting or opposing fees, corporate sponsorship, and possible consequences of fees such as over commercialization. Table 30 details the full statements presented to respondents and the mean response (on a 1 to 5 scale from "strongly disagree" to "strongly agree").

Respondents to the recreational user survey expressed their support for equitable access to recreational opportunities. The highest mean rating for the attitude statements was for the notion that "People should be able to recreate on National Forests even if they can't afford to pay the fee". This strong sentiment toward equity is born out in the following analysis that identifies this as an underlying attitude factor for respondents at fee demonstration sites. It is therefore consistent that respondents would disagree with the statement "If someone can't afford to pay the fee, they shouldn't use the National Forest".

In general, respondents tended to agree with statements that allowed for fees, provided there was equitable access for those who can not afford it. Also, if corporations become involved in sponsorship of recreation they should, according to these respondents, not be recognized as sponsors.

- Table 0-21. Mean response to general fee statements (full recreational user sample). Responses were on a 1 to 5 scale from "strongly disagree" to "strongly agree" (source: on-site/mail-return survey of RFDP sites).

	N	Mean	Std. Dev.
People should be able to recreate on National Forests even if they can't afford to pay the fee.	1251	3.82	1.31
Charging fees helps the Forest Service do a better job at protecting the land while providing recreational opportunities.	1243	3.73	1.32
It is okay for the Forest Service to accept donations from corporations, but corporations should not be recognized as sponsors	1205	3.54	1.44
There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay.	1268	3.53	1.31
There is nothing wrong with charging fees to recreate on National Forests.	1269	3.34	1.40
I would be willing to pay a little extra on my fee to help cover the cost for people who can't afford it.	1261	2.92	1.42
I am willing to pay fees but I don't think that I should have to.	1257	2.86	1.35
Charging fees on National Forests will make it so that only the rich can use the best areas.	1251	2.63	1.44
Corporations should be allowed to sponsor recreation sites or facilities on National Forests with few or no restrictions	1236	2.44	1.54
I get less satisfaction from recreating on National Forests if I pay a fee to use an area.	1240	2.44	1.44
Charging fees on National Forests will lead to over-commercialization.	1160	2.41	1.33
If someone can't afford to pay the fee, they shouldn't use the National Forest.	1266	1.95	1.28
I can't afford to pay a fee to recreate on National Forests.	1234	1.88	1.24

In an attempt to portray the recreational users attitudes regarding fees, a series of analyses were performed to determine if groups of recreationists could be identified based on the fee attitudes they hold. In order to accomplish this the responses to the attitude statements were examined using a factor and cluster analysis procedure. The result of the factor analysis (Table 31) identified three major attitude types and the individual attitude statements that characterize each factor.

Based on these items, factor one was titled the "pro-fee" factor. This factor represented stronger support for statements allowing for the use of fees, even if fee prices were more than a person could afford to pay. Also this factor was characterized by stronger support for fees rather than taxes to pay for recreation.

Factor two is characterized by negative fee attitude statements. Negative impacts of fees on personal satisfaction, the level of commercialization, and restrictions on access for those with limited means characterize this type of attitude. Thus, this factor was labeled "anti-fee".

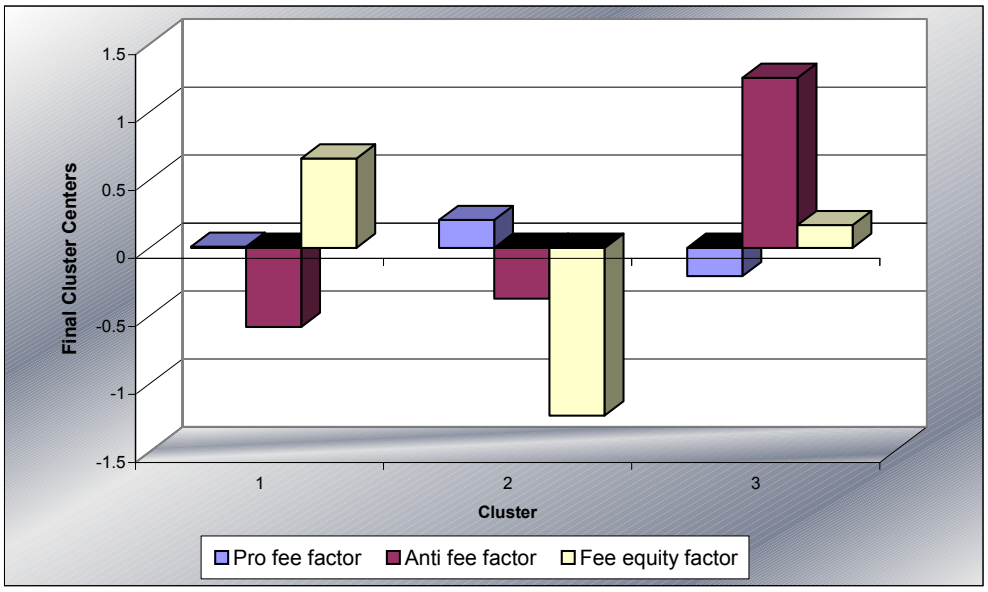
The final factor resulting from this analysis was informed by a strong association with a single statement. Namely, that "People should be able to recreate on National Forests even if they can't afford to pay the fee." The high mean rating for this item noted above, coupled with the strong association in this analysis, suggests the presence of an attitude focused on issues of equity. For this reason, this factor was titled "fee equity".

- Table 0-22. Fee attitude factors for National Forest recreational visitors as identified from the principal components factor analysis of individual attitude items (source: on-site/mail-return survey of RFDP sites).

Factor 1 -	Factor 2 -	Factor 3 -
• There is nothing wrong with charging fees to recreate on National Forests. • There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay. • Higher emphasis on fees over taxes	• I can't afford to pay a fee to recreate on National Forests. • Charging fees on National Forests will make it so that only the rich can use the best areas. • Charging fees on National Forests will lead to over-commercialization. • I get less satisfaction from recreating on National Forests if I pay a fee to use an area.	• People should be able to recreate on National Forests even if they can't afford to pay the fee.

The next task in this analysis it to identify groups of respondents relative to these attitude factors. Figure 39 details the results of a cluster analysis on the attitude factor scores. This analysis suggests that respondents can best be identified by categorizing them according to the three factors identified. In the case of cluster one, the fee equity factor is the primary determinant. Thus, this cluster bears the name of "fee equity". Similarly, cluster three is primarily characterized by the anti-fee factor. The second cluster has been called pro-fee. However, it should be noted that the loading for this factor is not as clear as for other clusters. There is also a sense of opposition to the fee equity statements for this cluster (negative values for fee equity cluster centers). This cluster could have been called "anti-fee equity". However, pro-fee was chosen since a negative reaction to the fee equity statements presented here most closely translate into a support for the use of fees as a means of revenue generations.

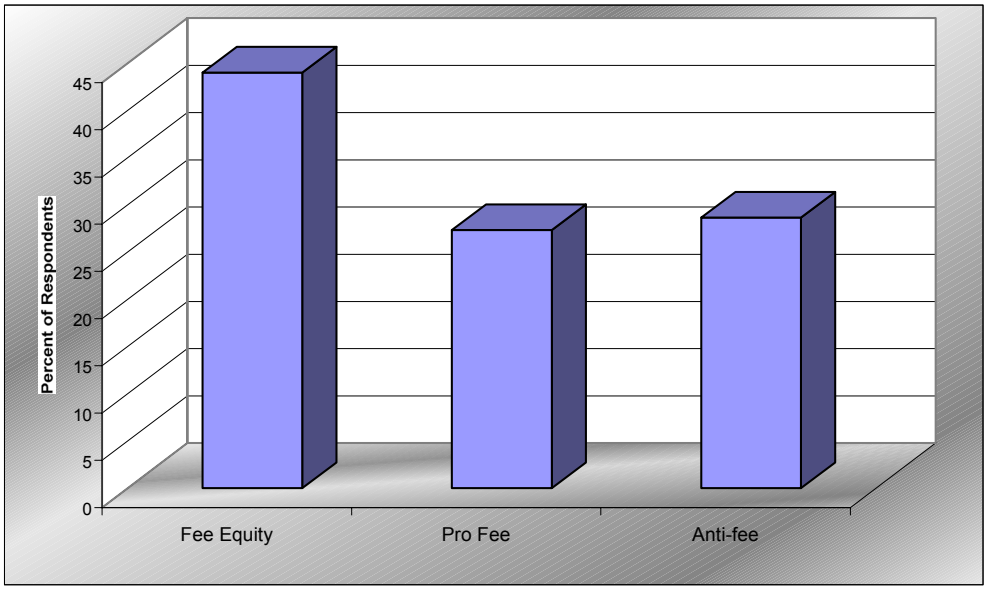
• Figure 39. Comparison of final cluster centers and cluster membership for analysis of fee attitude factor scores (source: on-site/mail-return survey of RFDP sites).



Classification of respondents according to these clusters reveals the prevalence of the fee equity sentiment (Figure 40). More than forty percent of respondents at the fee demonstration sites can be characterized as being concerned that those who can not afford to pay be able to continue recreating on National Forest Lands.

Graph cluster membership for each cluster.

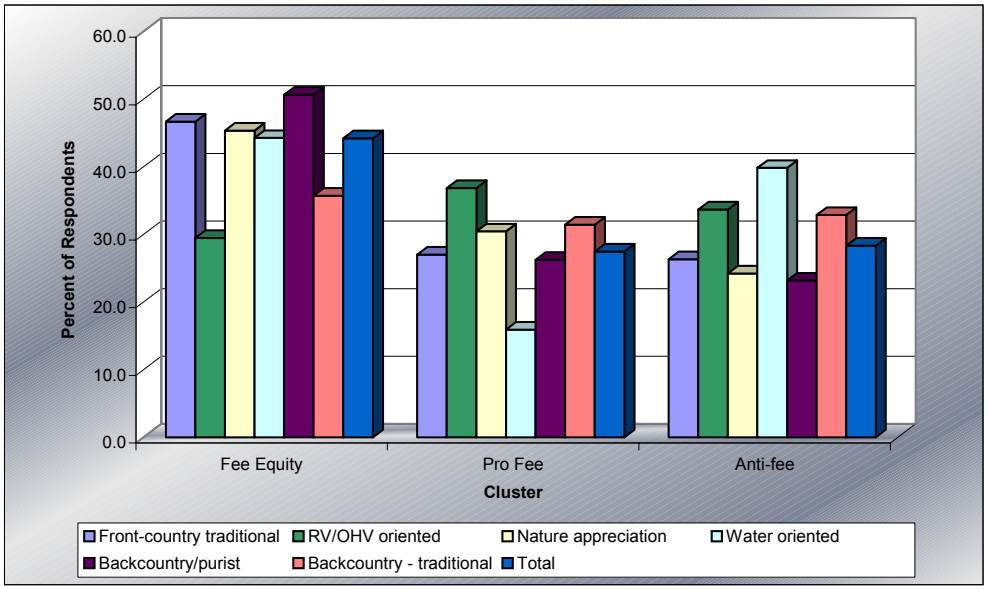
• Figure 40. Distribution of fee demonstration site respondents according to attitude clusters (source: on-site/mail-return survey of RFDP sites).



Beyond this characterization of respondents based on fee attitude, the goal of this analysis was to allow for an examination of differences in association with fee sentiments among the different types of users identified. Based on REP groups, household income categories, activity types, and level of involvement, are respondents more or less likely to be associated with a particular attitude cluster?

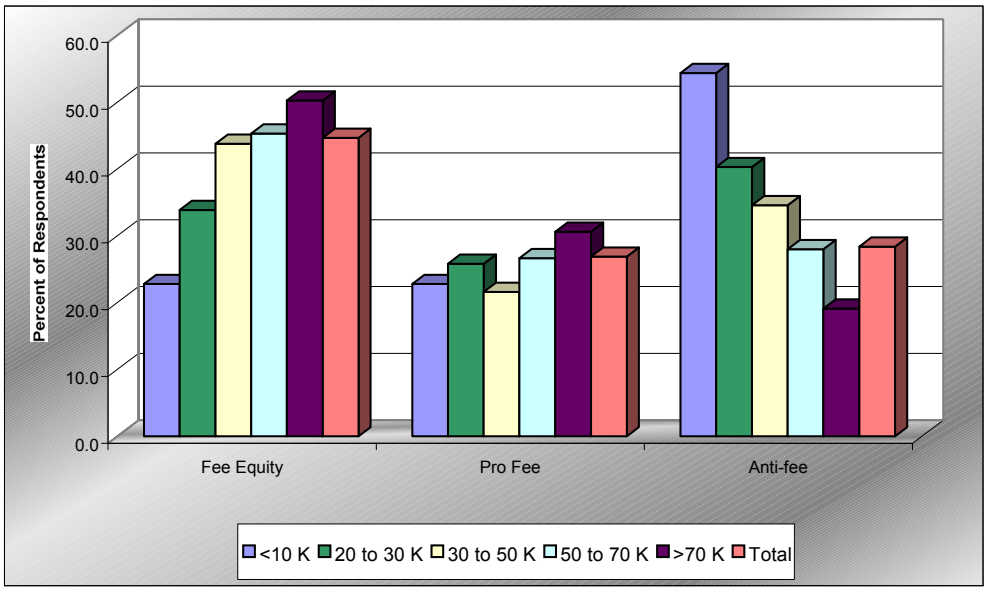
The results of this analysis suggest that significant differences in fee attitude cluster membership can be observed by the independent variables of activity type, and household income. Based on classification by activity type, it appears that the difference seems to be driven by the water-oriented who are more likely to associate with Anti-fee statements (Figure 41). Backcountry purists and RV/OHV cluster tend to differentiate between fee equity and pro-fee. Backcountry purists are more likely to be associated with fee the equity cluster and RV/OHV are more likely to be associated with pro-fee statements.

- Figure 41. The distribution of fee attitude cluster membership by activity type (chi square significant <= .05) (source: on-site/mail-return survey of RFDP sites).



Significant differences in fee attitude clusters were observed for different household income categories (Figure 42). Specifically, the anti-fee category was more likely to be associated with the lowest income levels while the highest income category was somewhat more likely to be associated with fee equity sentiments. These differences in attitude toward fees based on income serve to highlight the importance of perceived equity in any adopted fee system.

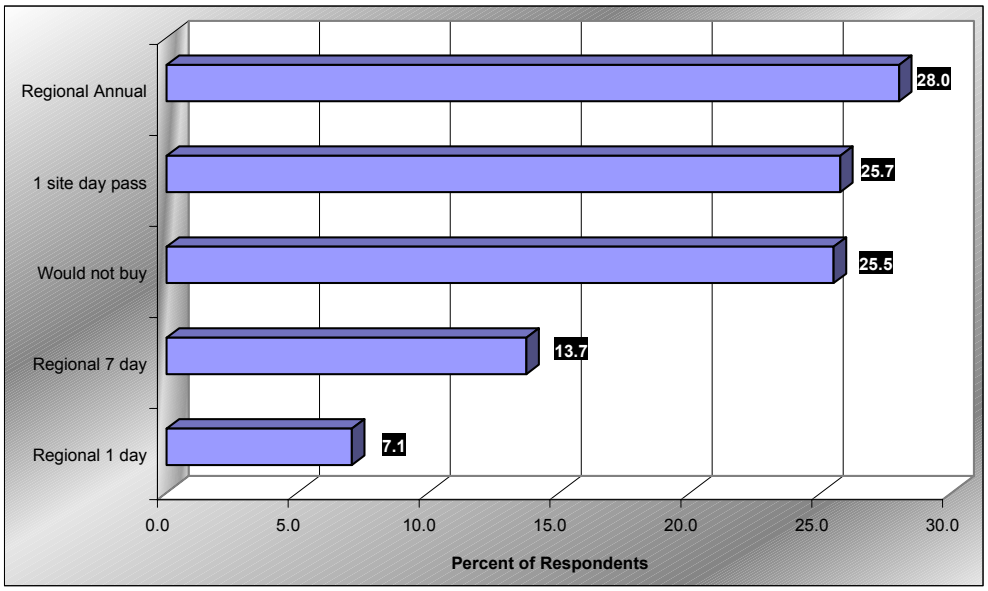
- Figure 42. The distribution of fee attitude cluster membership by household income category (chi square significant <= .05) (source: on-site/mail-return survey of RFDP sites).



Preferred Pass Type

As in the general population survey, respondents at RFDP sites were asked to select their most preferred pass option. The pass options evaluated differed in both their geographic and temporal characteristics (regional annual, regional seven-day, regional one-day, and a one-site one-day pass). The regional annual pass and the one site, one day pass were the most preferred options (28% and 26% respectively). However, twenty-six percent of respondents said they would not buy any of these pass options (Figure 43).

• Figure 43. Distribution of pass type evaluations by RFDP site recreationists for selected pass types (source: on-site/mail-return survey of RFDP sites).



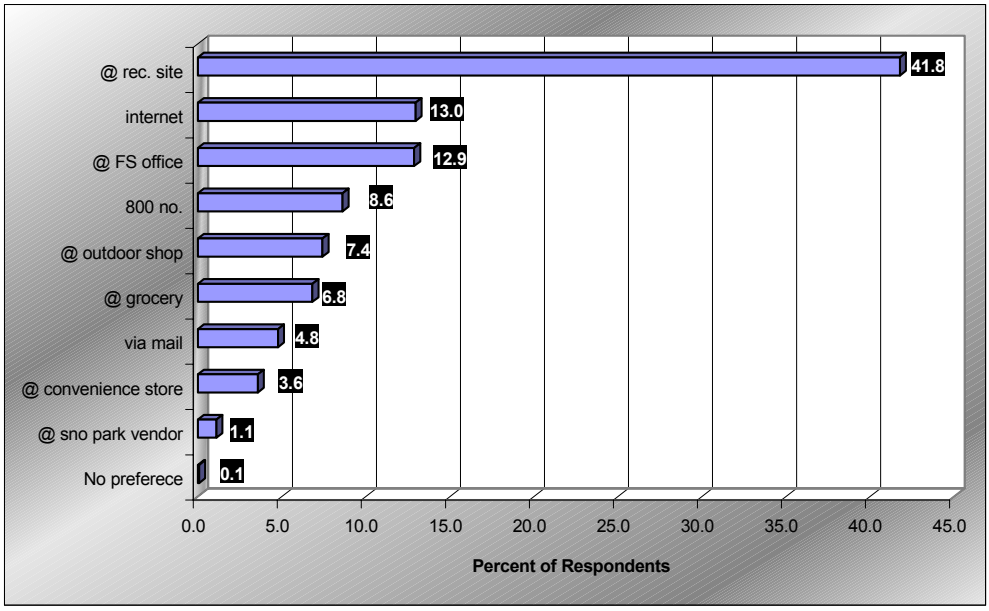
Evaluations of these pass types were stable for all respondents. An examination of responses to this question did not reveal any significant differences in preferred pass for activity type, household income, level of experience, or REP classification.

Preferred Purchase Method

An analysis of purchasing methods preferred by recreationists at RFDP sites reveals that the single most preferred purchase method is an ability to buy the pass at the recreation site (Figure 44). Forty-two percent of respondents identified this option as their most preferred method of purchasing recreation fee passes.

Locations for purchasing recreation passes such as retail outlets, and US postal service were less desirable. This preference seems to be a reflection of the distributed nature of recreation on National Forest lands. It is quite possible that the selection of this purchase method reflects a desire to maintain freedom of movement and spontaneity of participation. The possible desire for spontaneity could also play a part in the preference for a regional pass. It is unclear, however, how managers would reconcile a desire for on-site purchase along with the strong desire for regional pass unless there was some mechanism to sell regional passes at individual recreation sites. As with the pass type preference question, responses to these options were stable across the sample and no significant differences were observed among the categories of respondents.

• Figure 44. Most preferred purchasing method for a National Forest lands recreation pass in the Pacific Northwest. Percent of all respondents at RFDP sites (source: on-site/mail-return survey of RFDP sites).



Appropriate Expenditure for Fee Revenue

Respondents from the study of National Forest recreationists were asked to provide their opinion on how recreation fee revenue should be spent. Respondents were presented with a list of possible natural resource, facility, and service improvements and asked to rate the acceptability of fee expenditure for each category. Table 32 presents the mean acceptability rating for each expenditure option.

For every category of visitor examined, the top priority for expenditure of fee revenue is to "maintain the quality of the natural environment". An analysis of ratings by REP, activity type, household income, and level of involvement, revealed few statistically significant differences in the evaluation of these expenditure options[12].

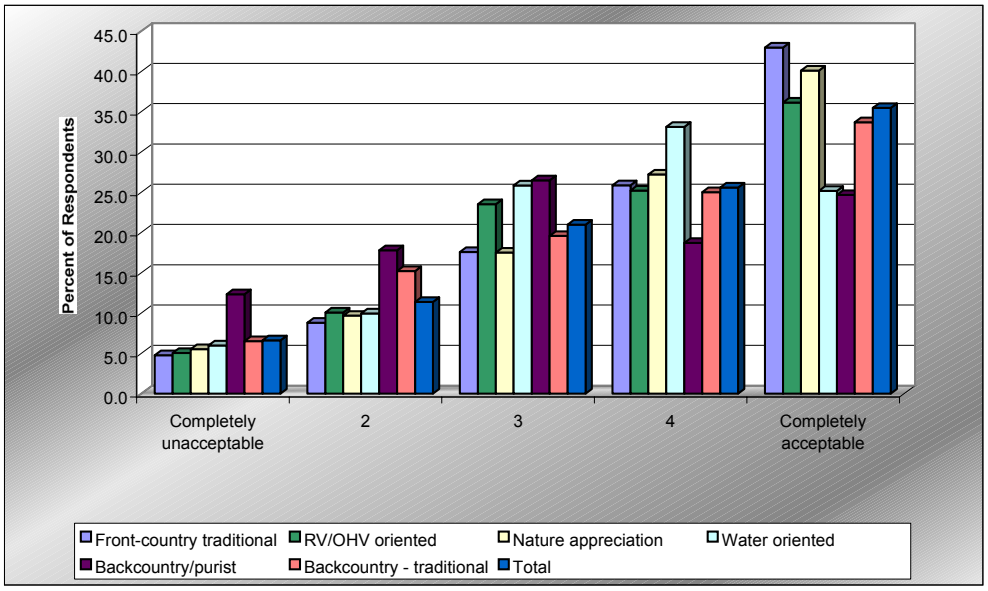
• Table 0-23. Mean acceptability rating for selected fee expenditure options by all respondents to the survey of users at RFDP sites. Mean of a five-point scale (1, completely unacceptable to 5, completely acceptable) (source: on-site/mail-return survey of RFDP sites).

	N	Mean	Std. Dev.
Maintain the quality of the natural environment	1242	4.75	0.67
Maintain restrooms	1254	4.47	0.86
Provide emergency and security services	1233	4.05	1.12
Maintain trails	1245	4.57	0.74
Provide recreation information	1241	4.10	0.99
Provide assistance to ensure universal access to recreation opportunities	1208	3.72	1.24
Provide adequate recreation staff	1232	3.79	1.21

[12] Because the distribution of these responses were highly skewed toward the "completely acceptable" category, many of the cells involved in a chi square analysis had expected values of less than five. This situation leaves any statistical determination based on chi square in doubt. Only those significant comparisons that had sufficient sample sizes are reported.

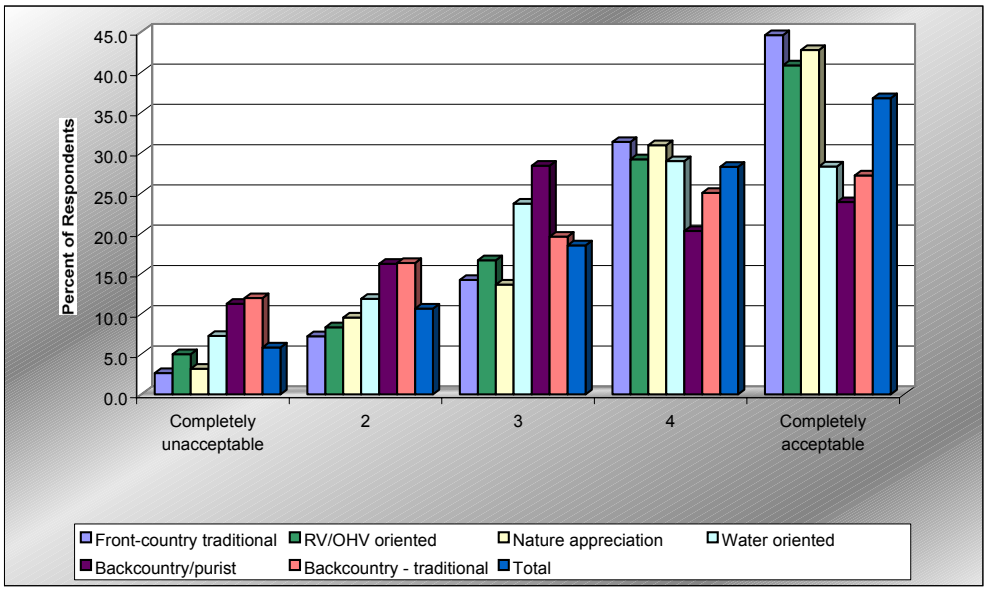
Examining the sample by recreation activity type showed significant differences in the evaluation expenditures to "provide assistance to ensure universal access to recreation opportunities" and provision of "adequate recreation staff". In terms of access, backcountry purists were more likely than other respondents to see this expenditure as "completely unacceptable". Front-country traditional, RV and OHV oriented, and Nature appreciation respondents were more likely to see this expenditure as "completely acceptable" (Figure 45).

- Figure 45. Distribution of acceptability ratings for expenditure to "ensure universal access to recreation opportunities" by recreational activity type. Source: RFDP recreation site survey. Differences significant p<=.01 (source: on-site/mail-return survey of RFDP sites).



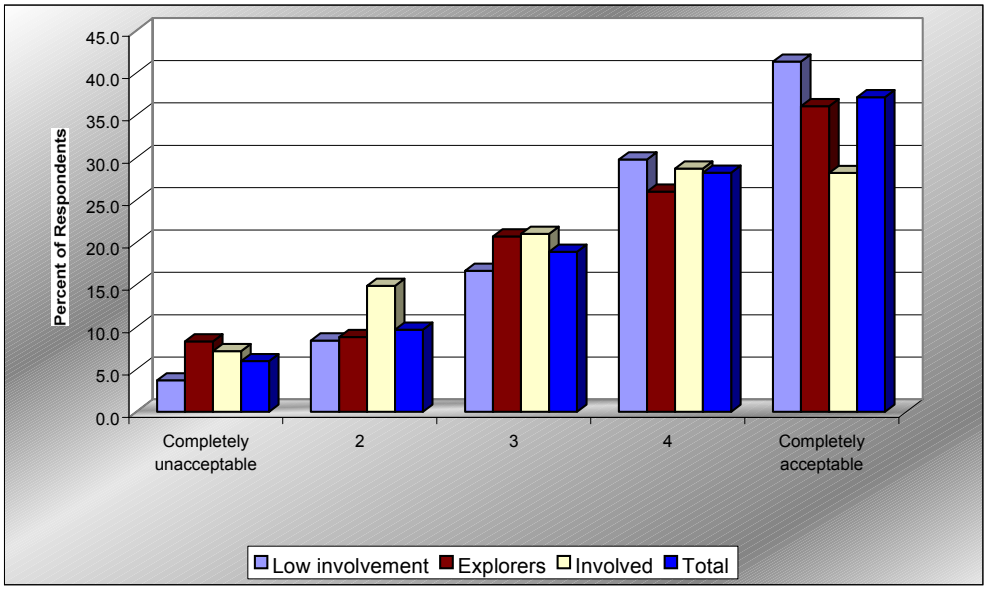
A similar pattern is apparent in the acceptability of spending fee revenue to provide adequate recreation staff (Figure 46). Front-country traditional, RV and OHV oriented, and Nature appreciation respondents were more likely to see this expenditure as "completely acceptable". For this comparison, however, both backcountry purists and backcountry traditional recreation types were more likely to find this expenditure "completely unacceptable".

• Figure 46. Distribution of acceptability ratings for expenditure to "provide adequate recreation staff" by recreational activity type. Differences significant p<=.01 (source: on-site/mail-return survey of RFDP sites.



For respondents with different levels of involvement with the site, differences were observed in the acceptability of spending fee revenue for the provision of recreational staff (Figure 47). Specifically, low involvement recreationists (or those for whom their current visit was their first, and the site was not their primary purpose of visit) were more likely than other respondents to find this expenditure "completely acceptable". Perhaps for these recreationists recreational staff is desirable because of their relative lack of familiarity with the site.

• Figure 47. Distribution of acceptability ratings for expenditure to "provide adequate recreation staff" by level of involvement with the site. Differences significant p<=.01 (source: on-site/mail-return survey of RFDP sites).

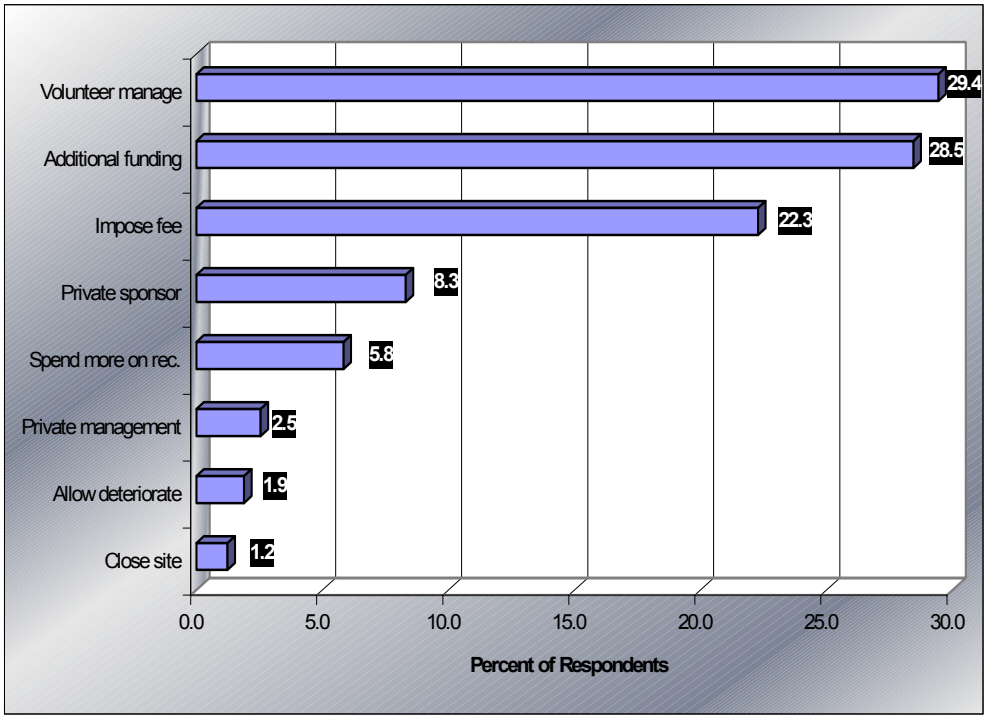


Management Options and Trade-off Regarding Fees

Just as in the general population survey, respondents at RFDP sites were asked to make a series of management trade-off decisions. That is, they were given the context of limited financial resources available to the management agencies. Within this context of limited resources, respondents were asked to rate their level of support for specific management options.

Specifically, respondents were asked to "suppose the National Forest did not have enough money or staff to adequately maintain a particular recreation site". Given this situation, which one option would you recommend choosing? Figure 48 displays the distribution of responses to this question. Volunteerism and increased appropriated funding were the two most supported options to deal with inadequate funding for maintaining recreation sites. Draconian measures such as closing the site or "allowing the site to deteriorate" were seen as unacceptable. Support for charging fees also received support from respondents within this context of limited financial options.

- Figure 48. Distribution of evaluations of selected management options (source: on-site/mail-return survey of RFDP sites).



In terms of fee implementation, respondents to the recreational user study indicated their support for strategies that favor volunteerism, ease of access, and assurances that all citizens maintain ability to use some areas without charge (Table 33). For these respondents it is acceptable to charge higher fees for activities with greater impact but less acceptable to use fees as a management tool to reduce crowding by limiting access.

- Table 0-24. Mean responses to evaluation of fee implementation options.. One to five-point scale with one being strongly oppose and five strongly support (source: on-site/mail-return survey of RFDP sites).

	N	Mean	Std. Dev.
Give individuals a free pass after they have volunteered and worked at the site.	1258	4.35	1.03
Offer an annual pass that works for all recreation sites (Forest Service, National Park Service, State Parks, etc.).	1262	4.30	1.10
Set aside some areas of National Forests where no fees are charged.	1252	4.19	1.10
Charge higher fees for activities that have greater impacts on the resources.	1270	4.13	1.28
Give senior citizens a discount on recreational fees on National Forests.	1266	4.13	1.24
Do not charge fees for the use of National forest lands, except for activities like camping at developed sites.	1271	3.42	1.37
Make one day a month free.	1190	3.26	1.52
Charge higher fees on busy days to reduce crowding.	1254	2.82	1.51
Do not charge any fees for recreating on National Forest Lands.	1263	2.65	1.38
Charge recreational fees on a per-person basis rather than per-vehicle.	1221	2.34	1.34

Chapter
4

Discussion

The findings from both the telephone and on-site surveys raise a series of important issues regarding the future management of recreation opportunities on the National Forests of the PNW. Six issues will be examined in greater detail: 1) the implications of a divided public on the basic question of the appropriateness of fees; 2) the influence on activity-based interests on public acceptance of fees; 3) the allocation of fee revenues; 4) the performance of the Forest Service on providing services that are important to the recreating public; 5) the potential for disproportionate impacts for fees on lower income or ethnic groups; and 6) the integration of fees into the suite of desired outcomes for recreation opportunities on public lands.

Attitudes regarding the appropriateness of fees

Findings in this research reveal a diversity of attitudes regarding recreation fees on the National Forests of the Pacific Northwest. Findings from the telephone survey indicate that about 20% of the overall population and 25% of National Forest visitors think that fees are generally a good idea. On the other hand, approximately 20% of the population of the region does not support the general idea of recreation user fees, and the proportion of on-site respondents that are opposed to the general idea of fees rests at around 25%. This leaves 60% of the general population (and about half of the people who were intercepted on-site) in the middle, a category that we have described as the "fee equity" proponents. Addressing the interests of the fee equity proponents will be an ongoing task of National Forest managers; i.e. applying a sensitivity to the use of fees that responds to the underlying causes that affect people's judgments regarding the appropriateness of fees.

This research provides some insight into the factors that might affect attitudes toward fees. Two major considerations emerge: first, the history of charging fees for the services provided, and second, the perceived relative impact of the activity on resources. When examining the types of activities that were rated by both telephone and on-site respondents, the activities that have traditionally been subject to fees – developed campgrounds and RV camping – were most acceptable for fees. There is an expectation to pay for these services, just as there is an expectation to pay for removing forest products, which was also very high among the mean scores for fee acceptability. This finding corresponds closely to prior research on the significance of precedent within the application of fees.

More interesting is the idea that fee payment can be associated with perceived resource impacts. The very high acceptability ratings of fees for boat docks and OHV use, as well as the high ratings of horseback riding and mountain biking, suggests an underlying belief

that it's fair that those who create impacts should pay for the privilege of creating them. This evidence is corroborated by the direct response to the question later in the survey instrument regarding impacts, where respondents in both surveys indicated a very high mean rating of acceptability for "charge higher fees for activities that have greater impacts on the resources." These high ratings of acceptability for fees does not mean that respondents are arguing for fees in the general sense, since they were able to distinguish, simultaneously, that other activities with more limited impacts are less acceptable for fees. The most passive of all activities listed, stopping at scenic overlooks, was strongly identified as an activity for which no fees should be charged. Other listed activities, such as driving on Forest Service roads, picnicking, parking one's car, or swimming, were also given low acceptability ratings for charging fees. Notwithstanding the impact of road systems (most of which were built for other purposes), people seem to discriminate along a continuum of resource impacts in forming judgments on the appropriateness of fees.

This raises some rather interesting policy implications for the agency, when it attempts to implement fee programs. In the first place, most people are largely unaware of the relative severity or extent of impacts of various recreational activities. Although "hiking on trails" and "hiking off trails" had almost identical acceptability ratings for fees, in many sensitive environments, the latter has a much greater impact on the environment than the former. Even if there were better information, the ability to impose different fees for different "impact-based" activities would face troublesome implementation problems. People frequently engage in multiple activities on their recreation trips, often acting spontaneously. Would they be charged at the highest potential rate for all the things that they do? There is also a persuasive equity argument that if impacts are the key to fee levies, then the frequency of impacts must also be considered. Thus, people shouldn't necessarily pay a one-time fee for a given period (even though the regional annual pass emerged as the most popular alternative for a visitor pass), but a fee based on the frequency and relative impact of their recreational activities. Although this type of question was not asked in this research, a "pay-as-you-go" approach would likely be a very difficult program to administer.

Some other interesting notions of equity emerge when examining the responses to the telephone survey, especially looking at those that do not identify themselves as recreationists or outdoor recreationsists. It would seem that those who do not benefit from the recreation experience would have a stronger desire for users to pay for recreation than the users would impose on themselves. Why should the non-recreationists have to subsidize, through their taxes, the benefits of recreation to people other than themselves? One of the underpinnings of the argument for levying fees on public lands is that those who benefit should pay. Yet these findings indicate the opposite point of view. Non recreationists are more likely than other respondents to oppose fees. This counterintuitive result will require additional exploration to understand its roots, but it's valuable to note that citizens can make judgments counter to a rigid, direct benefits logic.

Activity Interests and Fee Attitudes

The second major area for discussion emerges from the same root as the issues described above. We can understand users' attitudes and relationships to fees more clearly through the activities they participate in rather than by the experiences they seek. In other words, groups of users that are categorized by activities have more predictable responses to fees than groups that are categorized by experience preferences. In looking at the clusters emerging from the analysis of recreation experience preferences, there were four groups from the general population survey (personal growth and reflection,

connections with friends/family, challenge in a wilderness setting, and spontaneity rather than reflection), and two groups from the sample of National Forest visitors (appreciate nature with others and health and competence). Yet the differences in attitudes about fees between these groups, were, with only a few exceptions, insignificant. It may be difficult for the agency to estimate future fee structures or to market particular packages of experiences based on a segregation of users based on experience preferences.

Grouping visitors by their activity preferences, however, presents another picture. There are six clusters of respondents by activity: front country/passive (the biggest group), RV/OHV oriented, nature appreciation, water oriented, back country/purist, and back country traditional. There were significant differences in attitudes about fees among these groups, most notably, the back country traditional and water oriented recreationists were the groups most opposed to fees. On the other hand, front country traditional and nature appreciation recreationists found the fees to be quite acceptable. The outdoor recreation activities that the back country and water oriented groups typically pursue have not been subject to fees in the past, nor are they commonly perceived to be activities with major impacts (except perhaps for boat ramps). These groups will require special attention in the implementation of a fee program to build familiarity and a sense of propriety. The obvious linkage between fees and activities (fees are levied based on a type of activity ,such as camping) indicates that there could be a targeting of fee information and/or fee adjustments based on specific special interest groups or associations that promote these kinds of outdoor endeavors.

It is also worthy to note that preferences for expenditures of fee revenues, to be discussed below, can also be understood more clearly by examining activity groups. Not surprisingly, the activity group that showed significant differences from all the others about providing resources for additional access to recreation sites was the back country purist cluster. This group did not want to see additional development in areas that already may be perceived as overdeveloped, and to them, using recreation fees for additional access is "completely unacceptable." Again, this is an opportunity for the agency to work with specific, activity-based user groups to understand the location of priorities for backcountry characteristics, such that unnecessary conflicts on the placement of new investments are avoided.

Allocation of Fee Revenue

The third area for discussion, the allocation of fee revenues, can be viewed from two perspectives. First, what kinds of investments should be made from revenues collected on fee sites, and second, what are the implications of the limits of people's willingness to pay for fee passes. In the first case, the findings of this research raise an interesting ordering of priorities for the fee program. Early explanations of how fee revenues are being expended typically highlighted facilities and infrastructure improvements (USDA Forest Service1999), and the focus of importance/performance questions in this research clearly were targeted to understand what types of facilities and services could be provided. Yet the respondents to both the telephone and on-site survey indicated something different. The highest mean score for the application of fee demonstration funds was for "maintain the quality of the natural environment." This indicates a latent and perhaps powerful purpose behind people's willingness to pay for the use of public lands - to ensure that the very qualities that make these settings "natural" are not lost or abused. This does not mean that people did not wish to see improvements in the maintenance or operation of standard types of recreational infrastructure. "Maintain trails" was rated highly by people - second in the ranking of all the options. "Maintain restrooms" was third.

There are differences among activity-based clusters of visitors regarding what are acceptable or unacceptable expenditures of funds. For example, the provision of adequate recreation staff showed disagreement among groups. Those that are front country, RV/OHV oriented, or nature appreciation visitors like the idea of staff to help inform and reassure them. Both type of backcountry users, however, would rather see fewer staff members in the woods, as they are likely trying to get away from it all. This indicates that for the allocation of recreation fee investments, those resources to staff may be best spent on one of two areas. First, resources need to be expended on staff that focus on the maintenance of a quality environment. Recreation users have impacts (even in the back country, where many visitors don't even want to see staff), and these impacts will need to be adequately understood, inventoried, and systematically addressed. Second, resources will need to be directed toward staff that can service the front country, more facility dependent visitors. This is the largest cluster of visitors to the National Forests, and their political support for recreational budgets will remain vital.

Pricing of recreation passes

Regarding the pricing of recreation passes on the National Forests, a regional annual pass was selected by about half of the respondents faced with a price of $51 for that pass, but about 19% of respondents still chose the regional annual pass at $104. Based on these analyses, a price in the range of $50-60 for a regional annual pass would be in line with telephone survey responses. A price less than $29 for a regional 7-day pass, and less than $8 for a 1-day pass would be similarly consistent with the data. Again, those results are based on the more general population of National Forest recreation users captured by the telephone survey as opposed to those currently using Forest Service recreation sites at which fees are charged.

Based on the multinomial logistic (MNL) models of responses to the pricing question, we conclude that recreation fees are likely to have differential effects on people at different income levels. While those effects are complex and not easily interpretable with the level of analysis to date, the differences appear to be real. Because the MNL models estimate probabilities that people will purchase different pass types or no pass at all, they are estimating behavioral effects of pass prices. People with different levels of income behave differently when faced with recreation fees.

Forest Service Performance as a Recreation Provider

This research demonstrates that the agency does very well in providing valued recreational services. In both telephone and on-site survey results, people identified that the performance of the Forest Service was consistently resting in the "keep up the good work" quadrant for its signs, trails, maps, and other services provided. Respondents identified only a few items that they found to be of low desirability, and even on those areas where desirability was low, Forest Service performance did not rate lower than the desirability rating.

This research did not distinguish areas to which the agency should devote particular attention to improve its performance. The types of items that were measured are generally provided with sufficient frequency and quality that respondents consistently pointed toward their satisfaction with the status quo. The exceptions to this general standard of satisfactory performance are expressed in the previous section, but

considering the other issues facing recreation management, these items seem to be tinkering around the edges.

Conclusions

This research supports and supplements earlier systematic efforts to address the question on whether it is acceptable to charge fees for the recreational use of National Forest lands. As these and other findings (Belker, et al. 1999, Christnesen 1993) have identified, the answer is, "Sometimes." Are there activities for which fees should not be applied? Based on the low acceptability ratings for "all activities, all places," and the low ratings for relatively passive activities (driving Forest Service roads, picnicking, scenic overlooks, etc.), it appears that the public expects to be able to engage in a suite of activities on public lands without charge. Findings also support the idea that fees should not, and cannot, be the sole supporting mechanism of recreational opportunities, but that there needs to be a balance between taxes and fees.

Although there has been a relatively slow and quiet movement toward a "user pays" philosophy for public recreation services (White 1992), this does not necessarily mean that the users must pay for everything. Recreation services are quite variable, from providing restrooms or scenic overlooks to a full service campground. Although people believe that there are activities that should remain free, these findings suggest that certain activities in certain locations are appropriate for partial cost recovery. The policy issues now facing the Forest Service are more complex, since they imply a balance between increasing demands for multiple recreation opportunities and limited funds. The agency also must address the administrative practicalities and potential barriers in collecting fees in the face of sustained resistance by a determined minority of frequent users. A fees program on National Forests will require ongoing evaluation and modification as more people become familiar with fee systems and the consequences of collecting and expending fee revenues become more evident.

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Appendix 1 – On-site and Mail-return Questionnaires and Forms

On-site Questionnaire

1. Is your visit to this site the primary purpose of the trip that you are on?

   _____ No, one of several purposes _____ Yes, primary purpose

2. How many previous visits to this site have you made in the last twelve months? _____

3. How many years have you been visiting this site? _____

4. Please rate the importance of the following items to your experience today at this site:

Item	Very Unimportant				Very Important
Improved physical health	1	2	3	4	5
Strengthened relationships with my companions	1	2	3	4	5
Increased self-confidence	1	2	3	4	5
Reduced stress	1	2	3	4	5
Enhanced family relationships	1	2	3	4	5
Improved self-reliance	1	2	3	4	5
Improved mental health	1	2	3	4	5
Spiritual growth	1	2	3	4	5
Increased appreciation of the area's cultural history	1	2	3	4	5
Greater connection with nature	1	2	3	4	5
Provided an opportunity for solitude	1	2	3	4	5
Provided a challenge that tested my abilities	1	2	3	4	5
Being at one with nature	1	2	3	4	5
Provided a sense of adventure	1	2	3	4	5
Provided opportunities to meet new people	1	2	3	4	5
To experience nature in a pristine setting	1	2	3	4	5
Increased sense of competence	1	2	3	4	5
Greater connection with wilderness	1	2	3	4	5
Provided opportunities to view wildlife	1	2	3	4	5

	Extremely Unreasonable					Extremely Reasonable	No opinion
5. How reasonable is the amount of the fee at this site?	-3	-2	-1	1	2	3	X
	Completely Insufficient					**Very Sufficient**	**No opinion**
6. Did you have sufficient knowledge of the fee before you got to this site?	-3	-2	-1	1	2	3	X
	Extremely ineffective					**Extremely effective**	**No opinion**
7. How effective do you believe the fee will be to help maintain the current quality of the natural environment at this site?	-3	-2	-1	1	2	3	X
	Extremely ineffective					**Extremely effective**	**No opinion**
8. How effective do you believe the fee will be to help maintain the current social conditions, such as littering and crowding, at this site?	-3	-2	-1	1	2	3	X

Please Turn Page Over And Complete The Other Side

	Extremely upset					Definitely not upset	No opinion
9. What is your response to the Forest Service for implementing the fee at this site?	-3	-2	-1	1	2	3	X

10. The USDA Forest Service is considering alternative recreation fee passes. One option is to offer passes that cover different geographic areas within the National Forests of Oregon and Washington. **Please tell us which option you would most prefer.**

    a. A Regional Pass: good for all Forest Service sites throughout Oregon and Washington
    b. A State Pass: good for all Forest Service sites in **either** Oregon or Washington
    c. Multi-site Pass: good for a specific set of National Forests in Oregon and Washington
    d. Single site Pass: good for one site
    e. None of the above

11. Are you Hispanic or Latino(a)? _____ No ____ Yes

12. Which racial group(s) do you identify with? **Check all that apply.**

    a. African American/Black
    b. Asian
    c. Native Hawaiian or otherPacific Islander
    d. American Indian/Alaska Native
    e. White
    f. Other (please specify):_____

13. Which of the following reflects your annual household income before taxes for the last year?

___Under $10,000	___$30,001-40,000	___$70,001-90,000	___$130,001-150,000
___$10,001-20,000	___$40,001-50,000	___$90,001-110,000	___$150,001-170,000
___$20,001-30,000	___$50,001-70,000	___$110,001-130,000	___Over $170,000

14. Including yourself and your dependents, how many people live in your household? *Number of people*: _____

15. On this trip, how many people, including yourself, are in your party or group? *Number of people*: _____

16. Are you Male _____ OR Female _____

17. Is there some accommodation or assistance we could offer that would be helpful to you or anyone in your group?

    a. _____ No ____ Yes

    b. If yes, please tell us what accommodations or assistance we could provide:

    _____

Thank you for your assistance!

Mail-Return Questionnaire Cover Letter

Mail-return Questionnaire

OMB#: 0596-0149
Expiration Date: 12-31-99

Survey No.:_____

Notice of Regulatory Compliance

16 U.S.C. 1a-17 authorizes collection of this information. This information will be used by National Forest managers to better serve the public. Response to this request is voluntary. No action may be taken against you for refusing to supply the information requested. Your name is requested for follow-up mailing purposes only. When analysis of the questionnaire is completed, all names and address files will be destroyed. Thus the permanent data will be anonymous. Please do not put your name or that of any member of your group on the questionnaire. Data collected through visitor surveys may be disclosed to the Department of Justice when relevant to litigation or anticipated litigation, or to appropriate Federal, State, local or foreign agencies responsible for investigating or prosecuting a violation of the law.

Public reporting burden for this form is estimated to average twenty minutes per response. Direct comments regarding the burden estimate or any other aspects of this form to the Office of Management and Budget, Paperwork Reduction Project 1024-0119, Washington DC 20503.

Pacific Northwest

Recreation Survey

The University of Montana

School of Forestry
The University of Montana
Missoula, Montana 59812-0576

19. Given that you or someone in your group paid a fee to recreate at this site, how acceptable is it for that fee to be spent for the following services and facilities on National Forest recreation sites? **Circle one answer for each item.**

	Completely Unacceptable				Completely Acceptable	No Opinion
Maintain the quality of the natural environment	-2	-1	0	1	2	X
Maintain restrooms	-2	-1	0	1	2	X
Provide emergency and security services	-2	-1	0	1	2	X
Maintain trails	-2	-1	0	1	2	X
Provide recreation information	-2	-1	0	1	2	X
Provide assistance to ensure universal access to recreation opportunities	-2	-1	0	1	2	X
Provide adequate recreation staff	-2	-1	0	1	2	X

Finally, please tell us a little about yourself.

20. What is your age? _____

21. Do you have children under six years old living with you? _____ No _____ Yes

22. Do you have children from 6 to 18 years old living with you? _____ No _____ Yes

23. Which of the following best describes your occupation status in the past year? **Check one.**

___Full time student ___Part time student
___Employed full time ___Employed part time
___Unemployed ___Retired
___Homemaker/Caregiver Other_____

24. What is the highest level of schooling you have completed? (Select the appropriate category)

a. Less than 9th grade
b. 9th grade to 12th grade, no diploma
c. High school graduate
d. Some college, no degree
e. Associates degree
f. Bachelor's degree
g. Graduate or professional degree

Thank You For Your Participation In This Study

General Information: We would appreciate a few minutes of your time to answer this survey. Your responses to these questions will help National Forest personnel appropriately manage your National Forest lands. We ask that only you personally respond to all questions so that your answers represent just your views.

1. What activities have you participated in during the last twelve months in the National Forests of Washington or Oregon? **Circle all that apply**.

a. Boating
b. Picnicking
c. Visiting visitor centers
d. Fishing
e. Skiing
f. Driving and sightseeing
g. Camping at campgrounds with facilities
h. Camping at places with little or no improvements
i. Recreational Vehicle Camping
j. Day hiking **on** trials
k. Day hiking **off** trials
l. Backpacking
m. Collecting forest products (berries, Christmas trees, firewood etc.)
n. Hunting
o. Nature study
p. Viewing wildlife
q. Horseback riding
r. Off-highway vehicle driving
s. Climbing
t. Interpretive programs (such as campfire talks or nature walks)
u. Swimming
v. Rafting, kayaking or canoeing
w. Mountain biking
x. Nature photography
y. Hot spring use

Other: _____

2. During the last twelve months, how many trips have you made to any National Forest in Oregon or Washington? ☐

3. During the last twelve months, what **percent** of your trips to National Forests in Oregon or Washington were:

Day trips ☐ Overnight trips ☐ Multiple night trips ☐ = **100%**

4. During the last twelve months, what **percent** of your trips to National Forests in Oregon or Washington were:

Weekdays ☐ Weekends ☐ Holidays ☐ = **100%**

5. During the last twelve months, how many trips have you made for outdoor recreation at **non- National Forest lands** (e.g. National Parks, State Parks, private lands, etc.) in Oregon or Washington? ☐

6. The following question has two parts. First, please rate how **desirable** each of the following characteristics were to you on your last trip to Big Four. Second, please rate the performance of the Forest Service on providing each characteristic.

	Desirability						**Performance**					
	Not at all				Extremely	No Opinion	Not at all				Extremely	No Opinion
Availability of emergency services *(e.g. fire, police, paramedic)*	1	2	3	4	5	X	1	2	3	4	5	X
Accessibility for people with disabilities	1	2	3	4	5	X	1	2	3	4	5	X
Useful information about recreation opportunities	1	2	3	4	5	X	1	2	3	4	5	X
Adequate presence of uniformed staff to feel secure	1	2	3	4	5	X	1	2	3	4	5	X
Low risk of vandalism or theft to vehicles	1	2	3	4	5	X	1	2	3	4	5	X
Conveniently located restrooms	1	2	3	4	5	X	1	2	3	4	5	X
Personnel who are friendly and helpful	1	2	3	4	5	X	1	2	3	4	5	X
Clean toilets	1	2	3	4	5	X	1	2	3	4	5	X
Trails are well maintained	1	2	3	4	5	X	1	2	3	4	5	X
Maps of the area easily available	1	2	3	4	5	X	1	2	3	4	5	X
Availability of multilingual services	1	2	3	4	5	X	1	2	3	4	5	X
Toilets that do not smell bad	1	2	3	4	5	X	1	2	3	4	5	X
Sufficient number of trails	1	2	3	4	5	X	1	2	3	4	5	X
Clear and informative signs	1	2	3	4	5	X	1	2	3	4	5	X
Personnel who make the public feel welcome	1	2	3	4	5	X	1	2	3	4	5	X
Staff available to provide information	1	2	3	4	5	X	1	2	3	4	5	X
Trails are well signed	1	2	3	4	5	X	1	2	3	4	5	X
Assistance for people with special needs	1	2	3	4	5	X	1	2	3	4	5	X

15. Looking at the four passes described in question 14, and assuming that they are convenient to purchase, which pass would you buy at the following prices to cover any visits to Big Four next year?

CHECK ONE

	Option **A** (The Regional Annual Pass) if it cost $
	Option **B** (The Regional Seven Day Pass) if it cost $
	Option **C** (The Regional One Day Pass) if it cost $
	Option **D** (The One Site Day Pass) if it cost $
	I would not buy a pass

The dollar amounts shown above were chosen at random and are different in each questionnaire. Some of the amounts may seem high or low to you, but we need to cover a wide range of fees. Please answer the question as if these amounts were real. We realize it is hard to say exactly what you would do, but please give us your best guess.

16. If you said you **would purchase** one of the passes, how many trips would you anticipate taking to Big Four during the next 12 months? ☐

17. If you said you **would not buy a pass** at these prices, which of the following reasons best describes why you would not buy a pass. **Select one option.**

a. The suggested fees are too high.

b. I do not support charging fees at any price.

c. Other: _____

18. Which of the following purchasing methods would you **most** prefer if you were to buy a pass? **Circle one option**.

a. Order the pass by mail from the Forest Service
b. Buy the pass over the internet
c. Call a 1-800 number
d. Purchase the pass at a Forest Service office
e. Purchase at the recreation site
f. Buy the pass at a convenience store
g. Buy the pass at an outdoor shop
h. Buy the pass at a "sno-park" vendor
i. Buy the pass at a grocery store
j. Other: _____

14. You or someone in your group purchased a pass to recreate today. The USDA Forest Service is considering alternative recreation fee passes. These passes **would** cover things like trailhead parking, picnic area parking, visitor center admissions, camping at undeveloped campsites, boat docks and fish cleaning stations. The passes **would not** cover cabin rentals, or camping at developed campgrounds. Revenue collected from these fees would be used at the Forest where they were collected.

The proposed Passes are:

A — The Regional Annual Pass – good for **all Forest Service sites** throughout the states of Oregon and Washington. It would cover everyone in one vehicle and last for **1 year**.

	Not at all			A Little	A lot	No Opinion
a. How much do you like the idea of The Regional Annual Pass?	1	2	3	4	5	6

B — The Regional Seven Day Pass -- good for **all Forest Service sites** throughout the states of Oregon and Washington. It would cover everyone in one vehicle and last for **7 days**.

	Not at all			A Little	A lot	No Opinion
b. How much do you like the idea of The Regional Seven Day Pass?	1	2	3	4	5	6

C — The Regional One Day Pass -- good for **all Forest Service sites** throughout the states of Oregon and Washington. It would cover everyone in one vehicle and last for **1 day**.

	Not at all			A Little	A lot	No Opinion
c. How much do you like the idea of The Regional One Day Pass?	1	2	3	4	5	6

D — The One Site Day Pass – good for **one Forest Service site.** It would cover everyone in one vehicle and last for **1 day**.

	Not at all			A Little	A lot	No Opinion
d. How much do you like the idea of The One Site Day Pass?	1	2	3	4	5	6

7. Please tell us how you feel the Forest Service represents your interests. For each statement, mark a space that corresponds to your answer. Spaces closer to the ends mean you feel more strongly in favor of that statement and spaces closer to the center mean you do not have a strong opinion. **The USDA Forest Service:**

a. Shares my values	___ ___ ___ ___ ___ ___	Does not share my values
b. Is like me	___ ___ ___ ___ ___ ___	Is not like me
c. Has similar goals to mine	___ ___ ___ ___ ___ ___	Has different goals than mine
d. Supports my views	___ ___ ___ ___ ___ ___	Opposes my views
e. Thinks like me	___ ___ ___ ___ ___ ___	Does not think like me

8. How acceptable would it be to charge fees for the following recreational activities in Washington or Oregon? **Circle one answer for each activity**.

	Completely Unacceptable				Completely Acceptable	No Opinion
Driving on Forest Service roads	-2	-1	0	1	2	X
Day hiking **on** trails	-2	-1	0	1	2	X
Day hiking **off** trails	-2	-1	0	1	2	X
Backpacking	-2	-1	0	1	2	X
Camping at campgrounds **with** facilities	-2	-1	0	1	2	X
Camping at places with little or no improvements	-2	-1	0	1	2	X
RV camping	-2	-1	0	1	2	X
Off-highway vehicle use	-2	-1	0	1	2	X
Picnicking	-2	-1	0	1	2	X
Horseback riding	-2	-1	0	1	2	X
Mountain biking	-2	-1	0	1	2	X
Climbing	-2	-1	0	1	2	X
Rafting, canoeing, or kayaking	-2	-1	0	1	2	X
Boat dock or boat ramp use	-2	-1	0	1	2	X
Hot springs use	-2	-1	0	1	2	X
Visitor centers	-2	-1	0	1	2	X
Interpretive programs (such as campfire talks, or nature walks)	-2	-1	0	1	2	X
Collecting forest products (berries, Christmas trees, firewood etc.)	-2	-1	0	1	2	X
Parking at trailheads	-2	-1	0	1	2	X
Parking anywhere in a National Forest	-2	-1	0	1	2	X
Swimming	-2	-1	0	1	2	X
Stopping at scenic over-looks	-2	-1	0	1	2	X
Recreating in wilderness areas	-2	-1	0	1	2	X
All activities, all places	-2	-1	0	1	2	X

9. Please tell us how much you agree or disagree with each of the following statements. **Circle one answer for each statement**.

	Strongly Disagree				Strongly Agree	No Opinion
There are times and places where a fee to use National Forests is OK, even if that fee is more than I personally would pay.	-2	-1	0	1	2	X
If someone can't afford to pay the fee, they shouldn't use the National Forest.	-2	-1	0	1	2	X
There is nothing wrong with charging fees to recreate on National Forests.	-2	-1	0	1	2	X
I would be willing to pay a little extra on my fee to help cover the cost for people who can't afford it.	-2	-1	0	1	2	X
People should be able to recreate on National Forests even if they can't afford to pay the fee.	-2	-1	0	1	2	X
Corporations should be allowed to sponsor recreation sites or facilities on National Forests with few or no restrictions	-2	-1	0	1	2	X
I can't afford to pay a fee to recreate on National Forests.	-2	-1	0	1	2	X
I get less satisfaction from recreating on National Forests if I pay a fee to use an area.	-2	-1	0	1	2	X
Charging fees on National Forests will lead to over-commercialization.	-2	-1	0	1	2	X
Charging fees on National Forests will make it so that only the rich can use the best areas.	-2	-1	0	1	2	X
Charging fees helps the Forest Service do a better job at protecting the land while providing recreational opportunities.	-2	-1	0	1	2	X
It is okay for the Forest Service to accept donations from corporations, but corporations should not be recognized as sponsors	-2	-1	0	1	2	X
I am willing to pay fees but I don't think that I should have to.	-2	-1	0	1	2	X

10. In your opinion, what is the proper balance between taxes and user fees for generating public forest areas operating funds? **Choose one option**.

Entirely from taxes	Mostly from taxes	Equally from taxes and user fees	Mostly user fees	Entirely from user fees	Don't know

11. Suppose the National Forest did not have enough money or staff to adequately maintain a particular recreation site. Please tell us how much you support or oppose the following options. **Circle one answer for each option.**

	Strongly Oppose				Strongly Support	No Opinion
a. Impose a fee for people to use the site.	-2	-1	0	1	2	X
b. Insist that Congress allocate additional funding to the Forest Service.	-2	-1	0	1	2	X
c. Allow private corporations to sponsor the site.	-2	-1	0	1	2	X
d. Keep the site open but allow it to deteriorate.	-2	-1	0	1	2	X
e. Keeping the overall Forest Service budget the same, spend more on recreation management.	-2	-1	0	1	2	X
f. Allow qualified volunteer and citizen organizations to manage the site.	-2	-1	0	1	2	X
g. Close the site for recreational use.	-2	-1	0	1	2	X
h. Contract with a private company to manage the site.	-2	-1	0	1	2	X

12. Suppose the Forest Service must choose between the options you just considered in question 11. Which ONE option (a through h) would you recommend choosing? ☐

13. Please tell us how much you support or oppose the following management policies. **Circle one answer for each management policy**.

	Strongly Oppose				Strongly Support	No Opinion
Set aside some areas of National Forests where no fees are charged.	-2	-1	0	1	2	X
Give senior citizens a discount on recreational fees on National Forests.	-2	-1	0	1	2	X
Charge higher fees on busy days to reduce crowding.	-2	-1	0	1	2	X
Charge higher fees for activities that have greater impacts on the resources.	-2	-1	0	1	2	X
Make one day a month free.	-2	-1	0	1	2	X
Do not charge fees for the use of National forest lands, except for activities like camping at developed sites.	-2	-1	0	1	2	X
Offer an annual pass that works for all recreation sites (Forest Service, National Park Service, State Parks, etc.).	-2	-1	0	1	2	X
Do not charge any fees for recreating on National Forest Lands.	-2	-1	0	1	2	X
Charge recreational fees on a per-person basis rather than per-vehicle.	-2	-1	0	1	2	X
Give people a free pass after they have volunteered and worked at the site.	-2	-1	0	1	2	X

Reminder Post Card

First Replacement Mailing Cover Letter

Second Replacement Mailing Cover Letter

Appendix 2 – Recreational Experience Preference (REP) Factor and Cluster Analysis Statistics (On-site/Mail-return sample)

Appendix 2 – Table 1. Total variance explained by factor analysis of REP items (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.320	44.337	44.337	5.320	44.337	44.337	3.539	29.491	29.491
2	1.974	16.447	60.785	1.974	16.447	60.785	3.376	28.133	57.624
3	1.297	10.811	71.596	1.297	10.811	71.596	1.677	13.972	71.596
4	.633	5.278	76.874						
5	.564	4.697	81.571						
6	.445	3.712	85.283						
7	.408	3.402	88.685						
8	.362	3.017	91.703						
9	.299	2.491	94.194						
10	.273	2.275	96.468						
11	.223	1.859	98.328						
12	.201	1.672	100.000						

Extraction Method: Principal Component Analysis.

Appendix 2 – Table 2. Rotated component matrix for factor analysis of REP items (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Component		
	1	2	3
Mot-self-confidence	.853		
Mot-competence	.837		
Mot-self-reliance	.835		
Mot-test abilities	.819		
Mot-physical health	.669		
Mot-connect wilderness		.873	
Mot-pristine nature		.819	
Mot-connect nature		.803	
Mot-at one with nature		.780	
Mot-view wildlife		.684	
Mot-family relations			.876
Mot-rel. with companions			.802

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 2 – Table 3. Final Cluster Centers for cluster analysis of REP factor scores (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Cluster	
	1	2
REP - Health/competence	-.91568	.61223
REP - Nature appreciation	.32817	-.21941
REP - Affiliation	.14224	-.09510

Appendix 2 – Table 4. Analysis of variance for final cluster centers for cluster analysis of REP factor scores (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
REP - Health/competence	643.581	1	.439	1146	1465.071	.000
REP - Nature appreciation	82.662	1	.929	1146	89.004	.000
REP - Affiliation	15.529	1	.987	1146	15.728	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix 3 – Activity Type Factor and Cluster Analysis Statistics (On-site/Mail-return sample)

Appendix 3 – Table 1. Total variance explained by factor analysis of activity type items (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.347	16.737	16.737	3.347	16.737	16.737	2.403	12.013	12.013
2	2.037	10.184	26.921	2.037	10.184	26.921	1.874	9.370	21.382
3	1.688	8.442	35.363	1.688	8.442	35.363	1.675	8.373	29.755
4	1.215	6.074	41.437	1.215	6.074	41.437	1.621	8.104	37.860
5	1.159	5.794	47.231	1.159	5.794	47.231	1.469	7.344	45.204
6	1.000	5.002	52.233	1.000	5.002	52.233	1.406	7.029	52.233
7	.957	4.783	57.016						
8	.929	4.643	61.659						
9	.826	4.130	65.789						
10	.772	3.862	69.650						
11	.748	3.742	73.392						
12	.683	3.416	76.808						
13	.677	3.387	80.195						
14	.633	3.167	83.362						
15	.627	3.137	86.499						
16	.598	2.991	89.489						
17	.588	2.941	92.431						
18	.553	2.766	95.197						
19	.500	2.499	97.695						
20	.461	2.305	100.000						

Extraction Method: Principal Component Analysis.

Appendix3– Table 2. Rotated component matrix for factor analysis of activity type items (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Component					
	1	2	3	4	5	6
Backpacking	.767					
Camping (No Improv.)	.692					
Climbing	.623					
Day hiking (off trail)	.617					
Skiing	.492					
Q1. Boating		.775				
Rafting		.710				
Swimming		.551				
Visiting V.C.			.722			
Driving & Sightseeing			.679			
Q1. Picnicking			.622			
Nature Study				.702		
Nature photography				.658		
Viewing wildlife				.656		
Hunting					.717	
Horseback riding					.681	
Fishing		.435			.537	
RV Camping						.812
OHV use						.550
Camping (Improv.)						.470

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 3 – Table 3. Final Cluster Centers for cluster analysis of activity type factor scores (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon)

	Cluster					
	1	2	3	4	5	6
Act f(1) Backcountry/purist	-.38260	-.28098	-.20815	.38378	.69271	.23933
Act (f2) Water oriented	-.36409	-.12071	-.31271	1.97171	-.25630	-.11996
Act f(3) Front-country traditional	.43728	.10585	.13576	.33794	-1.17079	-.10274
Act f(4) Nature Appreciation	-.46515	-.05158	1.37538	.02780	-.39918	-.10743
Act (f5) Backcountry -- traditional	-.23081	-.23905	-.13006	-.26426	-.31302	2.88524
Act f(6) RV/OHV oriented	-.36689	2.32392	-.28308	-.10358	-.25471	-.01618

Appendix 3 – Table 4. Analysis of variance for final cluster centers for cluster analysis of activity type factor scores (source: On-site/mail return sample of recreationists at RFDP sites in Washington and Oregon))

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
Act f(1) Backcountry/purist	45.775	5	.826	1289	55.396	.000
Act (f2) Water oriented	145.826	5	.438	1289	332.766	.000
Act f(3) Front-country traditional	87.581	5	.664	1289	131.869	.000
Act f(4) Nature Appreciation	112.803	5	.566	1289	199.185	.000
Act (f5) Backcountry -- traditional	175.394	5	.324	1289	542.131	.000
Act f(6) RV/OHV oriented	160.392	5	.382	1289	420.182	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix 4 – Recreational Experience Preference (REP) Factor and Cluster Analysis Statistics (Telephone Survey of Residents in Oregon and Washington)

Appendix 4 – Table 1. Total variance explained by factor analysis of REP items (source: Telephone survey of residents of Washington and Oregon)

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.620	38.942	38.942	6.620	38.942	38.942	3.664	21.554	21.554
2	1.656	9.744	48.686	1.656	9.744	48.686	3.002	17.660	39.214
3	1.525	8.970	57.656	1.525	8.970	57.656	2.562	15.069	54.282
4	1.052	6.188	63.844	1.052	6.188	63.844	1.625	9.562	63.844
5	.799	4.698	68.542						
6	.742	4.365	72.907						
7	.638	3.752	76.659						
8	.596	3.507	80.166						
9	.585	3.444	83.609						
10	.512	3.010	86.620						
11	.455	2.674	89.294						
12	.382	2.248	91.541						
13	.357	2.102	93.644						
14	.303	1.784	95.428						
15	.282	1.660	97.088						
16	.258	1.518	98.606						
17	.237	1.394	100.000						

Extraction Method: Principal Component Analysis.

Appendix 4 – Table 2. Rotated component matrix for factor analysis of REP items (source: Telephone survey of residents of Washington and Oregon)

	Component			
	1	2	3	4
Greater connection with wilderness	.800			
Greater connection with nature	.741		.403	
To experience nature in a pristine setting	.740			
Being at one with nature	.726			
Provided opportunities to view wildlife	.669			
Provided an opportunity for solitude	.495			
Increased appreciation of the areas cultural history	.489			
Provided a challenge that tested my abilities		.835		
Increased sense of competence		.773		
Provided a sense of adventure		.681		
Improved self-reliance		.677	.486	
Increased self-confidence		.671	.486	
Improved mental health			.748	
Spiritual growth			.669	
Reduced stress			.623	
Enhanced family relationships				.849
Strengthened relationships with my companions				.826

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Appendix 4 – Table 3. Final Cluster Centers for cluster analysis of REP factor scores (source: Telephone survey of residents of Washington and Oregon)

	Cluster			
	1	2	3	4
REP - Nature & wilderness focus	-.48229	-.16278	-.07700	.50525
REP - Competence & challenge	-.82935	-.19567	-.06810	.68428
REP - Personal growth & relaxation	.67942	-1.28825	-.22271	.34562
REP - Friends & family connection	.36359	.34476	-1.65142	.33642

Appendix 4 – Table 4. Analysis of variance for final cluster centers for cluster analysis of REP factor scores (source: Telephone survey of residents of Washington and Oregon)

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
REP - Nature & wilderness focus	54.361	3	.846	1041	64.286	.000
REP - Competence & challenge	121.429	3	.616	1041	197.073	.000
REP - Personal growth & relaxation	188.515	3	.498	1041	378.635	.000
REP - Friends & family connection	193.983	3	.379	1041	512.318	.000

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

Appendix 5 – Characteristics of the Ethnic/Racial Minority Recreating Public in the Pacific Northwest (Telephone Survey of Residents in Washington and Oregon)

Appendix 6 – Telephone Survey Transcript